COMMUNITY
connectivity program

Stamford

Washington Boulevard – Road Safety Audit

September 8, 2016

CONNECTICUT DEPARTMENT OF TRANSPORTATION

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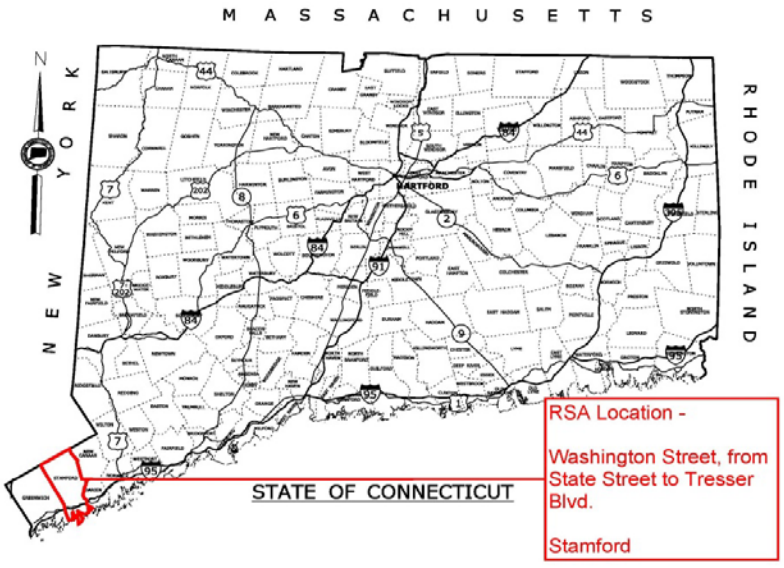
The Connecticut Department of Transportation (CTDOT) is undertaking a Community Connectivity Program that focuses on improving the state's transportation network for all users, with an emphasis on bicyclists and pedestrians. A major component of this program is conducting Road Safety Audits (RSA's) at selected locations. An RSA is a formal safety assessment of the existing conditions of walking and biking routes and is intended to identify the issues that may discourage or prevent walking and bicycling. It is a qualitative review by an independent team experienced in traffic, pedestrian, and bicycle operations and design that considers the safety of all road users and proactively assesses mitigation measures to improve the safe operation of the facility by reducing the potential crash risk frequency or severity.

The RSA team is made up of CTDOT staff, municipal officials and staff, enforcement agents, AECOM staff, and community leaders. An RSA Team is established for each municipality based on the requirements of the individual location. They assess and review factors that can promote or obstruct safe walking and bicycling routes. These factors include traffic volumes and speeds, topography, presence or absence of bicycle lanes or sidewalks, and social influences.

Each RSA was conducted using RSA protocols published by the FHWA. For details on this program, please refer to www.ctconnectivity.com. Prior to the site visit, area topography and land use characteristics are examined using available mapping and imagery. Potential sight distance issues, sidewalk locations, on-street and off-street parking, and bicycle facilities are also investigated using available resources. The site visit includes a "Pre-Audit" meeting, the "Field Audit" itself, and a "Post-Audit" meeting to discuss the field observations and formulate recommendations. This procedure is discussed in the following sections.



1 Introduction to the Stamford (Washington Boulevard) RSA

The City of Stamford submitted an application to complete an RSA along Washington Boulevard from Tresser Boulevard to South State Street to improve safety for pedestrians and bicyclists. At the audit, the area was extended to include Station Place. This corridor connects the rail station in the south to office buildings and government center to the north. The City feels that the current pedestrian movement and connectivity between the Stamford Rail Station and the office buildings and government center can be improved to make it more attractive, convenient, efficient and safe. Pedestrian features are presently provided at the signalized intersections but several are not ADA compliant. However pedestrians often cross mid-block when gaps in traffic are available, press the walk actuation button but do not wait for the pedestrian signal. The potential for a vehicular-pedestrian crash is high within the corridor due to the high traffic volumes and proximity to I-95 ramps. There is a need to evaluate more efficient patterns to ensure protection of the pedestrians while maintaining an acceptable vehicular level-of-service.

The Stamford application contained information on traffic volumes, crash data, and mapping of the intersection. The application and supporting documentation are included in Appendix A.

1.1 Location

The RSA corridor includes Washington Boulevard from Tresser Boulevard to Station place, a distance of approximately 1,800 feet (Figure 1). Washington Boulevard is classified as a principal arterial. The Washington Boulevard Average Daily Traffic (ADT) just north of the Tresser Boulevard intersection is 26,700 vehicles per day (vpd) and just south is 23,600 vpd. At North State Street the ADT is 25,100 vpd. and then drops to 16,600 vpd. at Station Place. The drop in ADT can largely be attributed to the I-95 ramp at North State Street. These are large volumes of traffic for a corridor to process. Figure 2 shows the regional context of the study area.

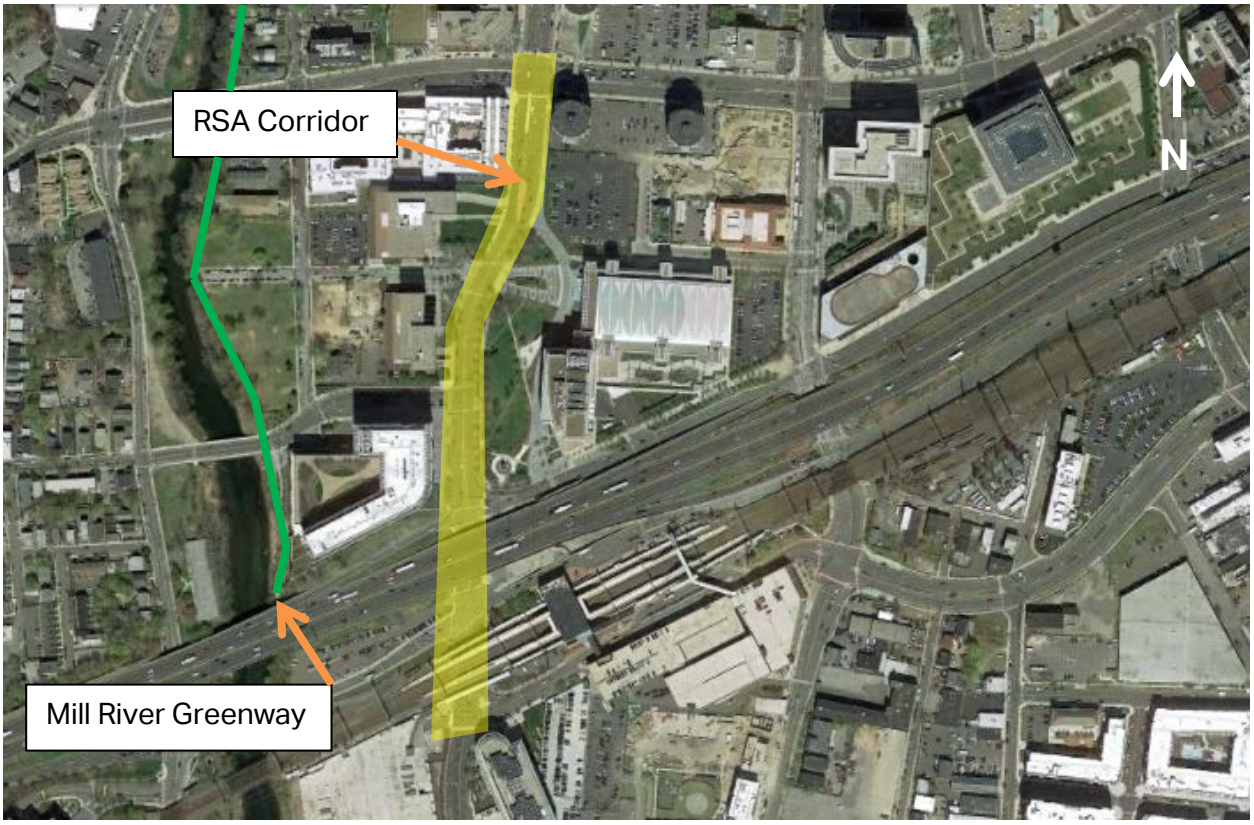


Figure 1. Washington Boulevard, Stamford

Figure 2. Washington Boulevard Regional Context

2 Pre-Audit Assessment

2.1 Pre-Audit Information

Between 2012 and 2014 there were 110 crashes in the RSA Area. The majority of crashes (79%) reported in this area resulted in property damage only; however 21% of crashes did result in an injury (Table 1). No crashes involved bicyclists, but six did involve a pedestrian. All six crashes occurred at intersections. In addition, 13 pedestrian crashes occurred at nearby intersections between 2012 and 2014 and 10 more occurred between 2015 and 2016.

Crashes involving pedestrians along the corridor:

1) Crash occurred at the Tresser Boulevard intersection at night in the rain and resulted in property damage only.
2) Crash occurred at the South State Street intersection during the day in the rain and resulted in a non-fatal injury. The contributing factor for the crash was the unsafe use of a highway by a pedestrian.
3) Crash occurred at the Richmond Hill Avenue intersection at night in dry conditions and resulted in a non-fatal injury. The contributing factor for the crash was the failure to grant right of way.
4) Crash occurred at the Tresser Boulevard intersection during the day in the rain and resulted in a non-fatal injury. The contributing factor for the crash was the unsafe use of a highway by a pedestrian.
5) Crash occurred at the South State Street intersection during the day in dry conditions and resulted in a non-fatal injury. The contributing factor for the crash was the failure to grant right of way.
6) Crash occurred at the Richmond Hill Avenue intersection during the day in dry conditions and resulted in a non-fatal injury. The contributing factor for the crash was the unsafe use of a highway by a pedestrian.

Crashes involving pedestrians at notable neighboring intersections:

- 6 pedestrian crashes resulting in severe pedestrian injuries occurred at Main Street/Washington Boulevard between 2012 and 2016.
- 7 pedestrian crashes resulting in severe pedestrian injuries occurred at BroadStreet/Washington Boulevard between 2012 and2016.
- 2 pedestrian crashes resulting in severe pedestrian injuries occurred at UCONN Garage/Washington Boulevard between 2012 and 2016.

The crash types reported were primarily rear-end collisions, and sideswipe-same direction. These are typical in high volume corridors with many turning movements (Table 2). Figure 3

displays crashes that occurred in this area during 2015. The crash history for year 2015 shows that they are clustered around intersections. This is typical for this type of corridor.

Severity Type	Number of Accidents	
Property Damage Only	87	79%
Injury (No fatality)	23	21%
Fatality	0	0%
Total	110	

Table 1. Crash Severity 2012-2014

Source: UConn Connecticut Crash Data Repository

Manner of Crash / Collision Impact	Number of Accidents	
Unknown	1	1%
Sideswipe-Same Direction	26	24%
Rear-end	41	37%
Turning-Intersecting Paths	8	7%
Turning-Opposite Direction	7	6%
Fixed Object	3	3%
Backing	1	1%
Angle	3	3%
Turning-Same Direction	13	12%
Moving Object	1	1%
Parking	0	0%
Pedestrian	6	5%
Overturn	0	0%
Head-on	0	0%
Sideswipe-Opposite Direction	0	0%
Miscellaneous- Non Collision	0	0%
Total	110	

Table 2. Crash Type 2012-2014

Source: UConn Connecticut Crash Data Repository

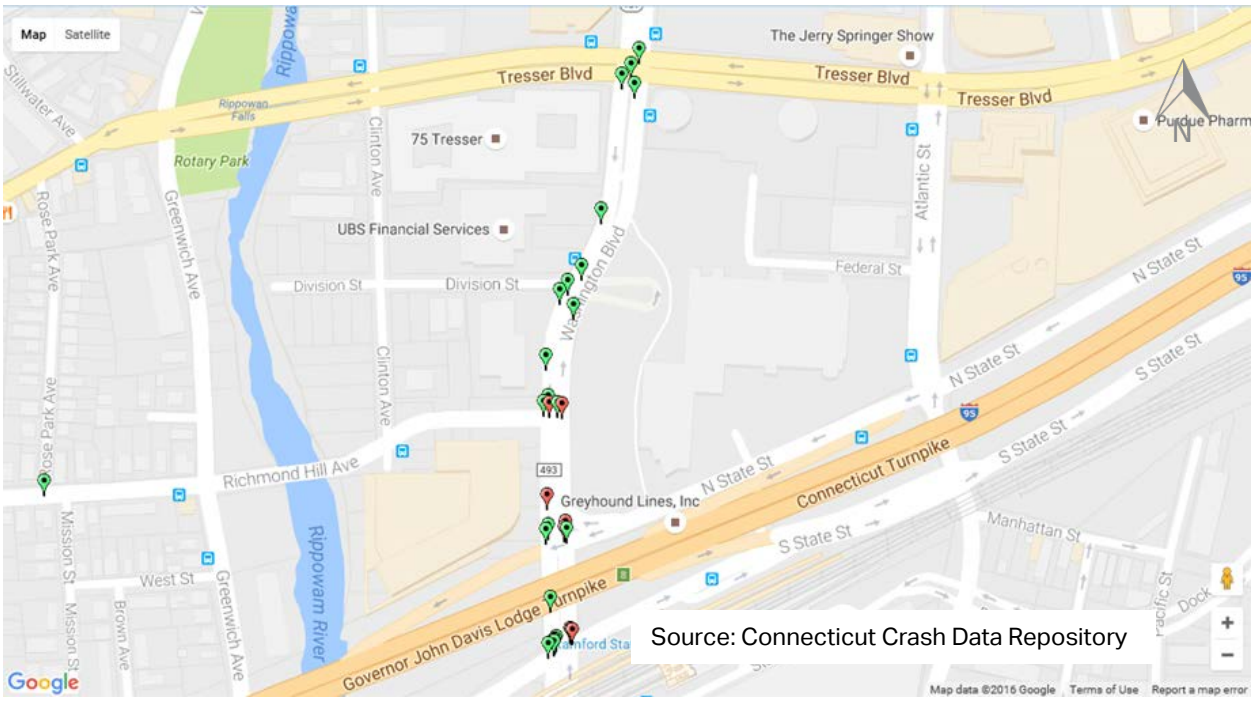


Figure 3. Crashes that Occurred in 2015 (Connecticut Crash Data Repository)

Washington Boulevard is a four lane state owned facility with additional turning lanes at intersections (Figure 5). There is sidewalk along the entirety of the corridor on both sides, varying from as little as 6 feet to as much as 26 feet in width. There are no shoulder lines along this corridor except for the one block under the Metro North Railroad bridge. There are seven signalized intersections along the corridor, described in the following sections. The geometry of the corridor is shown in Figure 4 and described in Table 3.

Although Washington Boulevard is not ideal for an on-street bike route, there are parallel multi-use trails on UBS property. Atlantic Street (one block to the east) is more suited to bicycle facilities, and the future Mill River Greenway will provide an off-road trail connecting to the Stamford Transportation Center (STC). Additional bike lanes are also being considered for Tresser Boulevard, as noted in the recent update of the Connecticut Bike & Pedestrian Plan.

#1 Intersection of Washington Boulevard and Tresser Boulevard. This is a four way signalized intersection with a crosswalk on each leg. Each leg of the intersection has 4 approach lanes. Washington Boulevard, in both directions, has two through lanes and dedicated left and right turn lanes. The northern leg of the intersection has on-street parking with curb bump-outs on the northbound side. Tresser Boulevard has two dedicated through lanes, dedicated left turn lanes and combined through and right turn lanes. All approaches have raised islands.

#2 Intersection of Washington Boulevard and Division Street. This is a four way signalized intersection with roadways on three of the approaches and the driveway to UBS on the fourth (east side). There are crosswalks across all three roadway legs and the sidewalk extends through the UBS driveway. The north crosswalk across Washington Boulevard is diagonal and creates a very long crossing distance for pedestrians. Washington Boulevard southbound has two through lanes and a dedicated left turn lane into the UBS driveway. The northbound approach has a dedicated left turn lane onto Division Street, a through lane and a shared right/through lane. Division Street has two lanes on the approach, striped as a dedicated left and a dedicated right, although there is no physical restriction of the through movement. The driveway for UBS has a single approach lane and allows movements in all directions.

#3 Intersection of Washington Boulevard and Richmond Hill Avenue. This is a three way signalized intersection. There are crosswalks across all three roadway legs. Washington Boulevard southbound has two approach lanes, with one dedicated through lane and a shared right/through lane. The northbound approach has three approach lanes, with a dedicated left turn lane onto Richmond Hill Avenue, and two through lanes. Richmond Hill Avenue has two lanes on the approach, marked as a dedicated right and a shared left/right lane.

#4 Intersection of Washington Boulevard and North State Street. This is a four leg signalized intersection with a one-way departing western leg that is the on-ramp for I-95. There are crosswalks across all legs of the intersection. The crosswalk across the northern leg and eastern leg connect to a channelizing island that splits the right turn from North State Street. North State Street is a one-way (westbound) road that also has a dedicated through lane and left turn lane. Washington Boulevard has three lanes on each leg, with two through lanes and a dedicated turn lane for the I-95 ramp to the west. This intersection is painted and signed "Do not block the Box".

#5 Intersection of Washington Boulevard and South State Street. This is a four leg signalized intersection, with South State Street being one-way eastbound. At the northeast corner of the intersection, just north of South State Street, there is the entrance to the shuttle bus station (under I-95). In the northwest corner there is a parking lot access point just north of South State Street. This driveway is not controlled by the intersection signal, and there is no clear signing or markings to indicate whether the drive is an entrance, exit, or two-way. Internally, the parking lot is signed one-way inbound, but there is no "Do Not Enter" signing to enforce this movement. There are crosswalks across all legs of the intersection including the parking lot drives. Washington Boulevard southbound has four approach lanes, with two dedicated through lanes and two left turn lanes. The northbound approach has three approach lanes, with two through lanes and a shared through/right turn lane. South State Street has three approach lanes, one dedicated left turn lane, a shared left/through and a shared right/through. This intersection is painted and signed "Do not block the Box".

#6 Intersection of Washington Boulevard and Station Place. This is a three way signalized intersection with a signalized channelizing island for right hand turns from Station Place. There are crosswalks across Station Place and the south leg of Washington Boulevard. The channelizing island splits the crosswalk across Station Place. Station Place has two approach lanes that split at the channelizing island to provide two right turn lanes and one left turn lane. Washington Boulevard northbound has two approach lanes, one through lane and a dedicated through/right turn lane. Southbound has three approach lanes, a dedicated left turn lane and two through lanes. This intersection is painted and signed "Do not block the Box". South of the Station Place intersection on Washington Boulevard there is a dedicated bike lane southbound and sharrows northbound between Station Place and Atlantic Street.

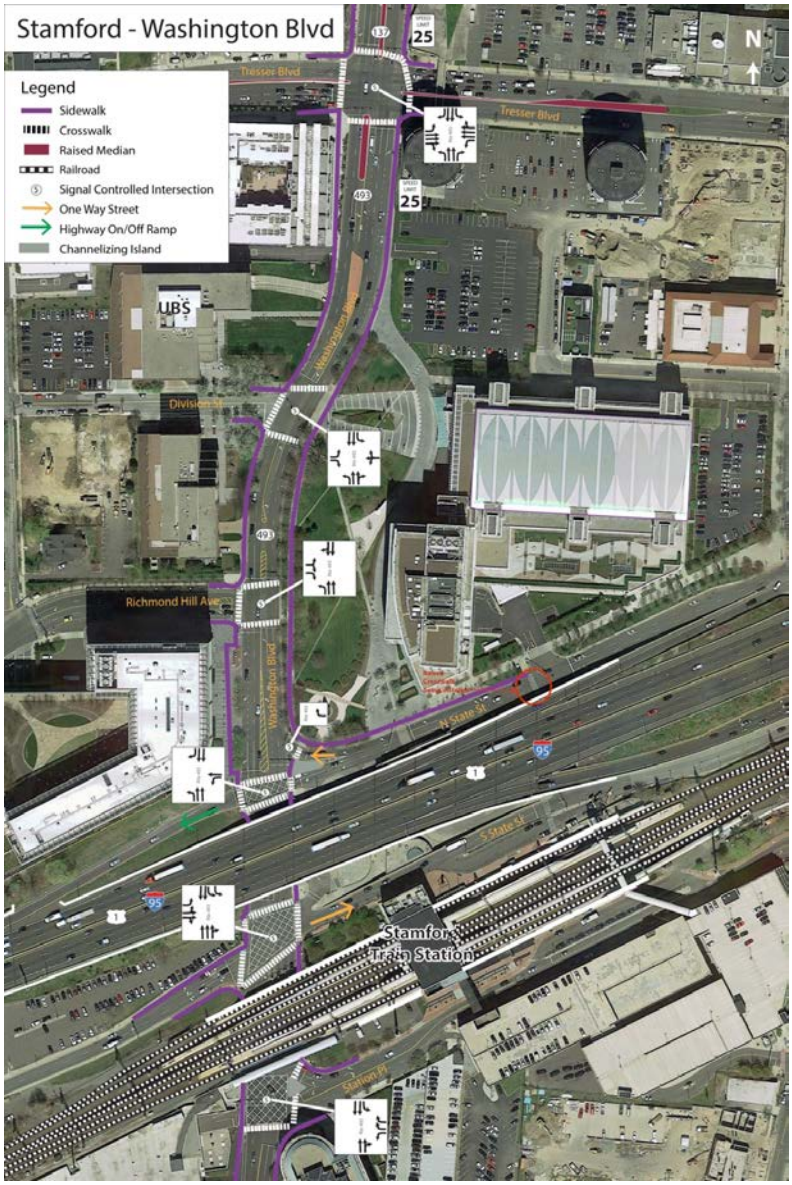


Figure 4. Washington Boulevard Road Geometrics

Stamford - Washington Boulevard

Street Inventory

From	To	Distance	Width	Sidewalk				Curb	Buffer Strip	Shoulder	Ramps	
				Side	Type	Width	Condition				Exist	Compliant
Tresser Boulevard	USB Financial	300 feet	2 lanes	SB	Pavers	9'-15'	Good	Concrete	Yes	No	Yes	No
			2 lanes	NB	Stamped Concrete	11'	Gooc	Granite	No	No	Yes	No
USB Financial	Division Street	300 feet	2 lanes	SB	Concrete	10'	Poor	Concrete	No	No	Yes	No
			2 lanes	NB	Stamped Concrete	11'	Good	Granite	Yes	No	Yes	No
Division Street	Richmond Hill	370 feet	2 lanes	SB	Concrete	6'	Poor	Concrete	Intermittent	No	Yes	Yes
	Avenue		2 lanes	NB	Stamped Concrete	12'	Good	Granite	Yes	No	Yes	No
Richmond Hill	N. State Street	330 feet	2 lanes	SB	Pavers	14'-26'	Good	Granite	Intermittent	No	Yes	No
Avenue			2 lanes	NB	Stamped Concrete	12'	Good	Granite	Yes	No	Yes	No
N. State Street	S. State Street	200 feet	2 lanes	SB	Concrete	6'	Good	Granite	Yes	No	Yes	No
			2lanes	NB	Concrete	6'	Good	Granite	No	No	Yes	No
S. State Street	Station Place	300 feet	2 lanes	SB	Brick	7'	Fair	Granite	No	1'-2'	Yes	No
			2 lanes	NB	Brick	7'	Fair	Granite	No	1'-2'	Yes	No

***CONDITION – "Good" is Serviceable Condition that meets current design standards. "Fair" is generally serviceable, but may need minor repairs, or may not completely align with current design standards. "Poor" is not serviceable, and generally inadequate for continued long-term use.**

Table 3. Street Inventory

2.2 Prior Successful Efforts

A number of best practices have already been applied to this corridor. The corridor has sidewalks along both sides for its entirety and all of the signalized intersections have painted crosswalks with pedestrian crossing signals. The city has also embarked on several plans to create a more multi-modal pedestrian friendly downtown, such as the Walkable Stamford report (Appendix D). The City, in conjunction with CTDOT and CTTransit, is studying the shuttle bus and fixed route circulation and routing in order to improve bus service in the area. Stamford is also creating a bicycle and pedestrian plan.

The City has submitted an application to CTDOT to:

1.1 Convert Washington Boulevard/Station Place, Washington Boulevard/South State Street, and Washington Boulevard/Richmond Hill Street pedestrian phases to concurrent from exclusive.
2.1 Install Audible Pedestrian Signals at all intersections from Station Place to Main Street along Washington Boulevard, and install all missing tactile warning strips.
3.1 Add a Leading Pedestrian Interval at all intersections from Station Place to Main Street along Washington Boulevard.
4.1 Add ped recall at all intersections from Station Place to Main Street along Washington Boulevard.

The City also intends to install missing tactile warning strips throughout this corridor.

2.3 Pre-Audit Meeting

The RSA was conducted on September 8, 2016. The Pre-Audit meeting was held at 8:30 AM in the 7th floor, transportation Conference Room located at 888 Washington Boulevard in Stamford.

The RSA Team was comprised of staff from CTDOT and AECOM, and representatives from several Stamford departments and organizations, including the Police Department, Transportation Department and the Engineering Department. Additionally members from WestCOG, CTtransit, and the Business Council of Fairfield County were present. The complete list of attendees can be found in Appendix B. Materials distributed to the RSA Team, including the agenda, audit checklist, ADT counts, crash data and road geometrics, can be found in Appendix C.

RSA Team members from Stamford presented relevant information for the audit, including:

- Between Tresser Boulevard and South State Street there is a confluence of heavy pedestrian and vehicle volumes due to highway access and the train station.

- Crash numbers are low but there is a high feeling of chaos around the Stamford Station with the movement of shuttles, pedestrians, and cars.
- There is a high level of jaywalking due to pedestrian actuation delay.
- There are high levels of motorist frustration due to density of traffic.
- This area is perceived as unfriendly to pedestrians. Many shuttle riders from the station are within walking distance of work.
- Concerns were raised regarding the shuttles, as they tend to wait everywhere such as Atlantic Street, when queueing up to enter the shuttle area.
- Another lane for shuttles was opened up by removing the MTA police vehicles. While this has helped, there is a large bulb out which is difficult for vehicles to maneuver around.
- Washington Boulevard is a major artery serving I-95, The Transportation Center/Train station, and an increasing population. It is the city's largest north-south corridor and acts as a spine.
- There is a mix of exclusive and concurrent pedestrian phases along the corridor. Signal timing is an issue, especially with exclusive signals. Exclusive signals are causing too much delay. The City has requested changing the Exclusive phases to operate concurrently.
- There are several ongoing projects in the area including the MNR Atlantic Bridge Replacement, Bike Plan and Transit plan.
- There is residential or mixed-use north and south of the STC, but there is no land use mix along the study segment of Washington Boulevard, and this leads to a car-dominated area surrounding the major transit hub.
- Between North State Street and Tresser Boulevard there is an unsignalized and unmarked multi-use trail.
- Bike and pedestrian connections north of Tresser Boulevard are a concern.
- A new parking garage may be constructed at the corner of Washington Boulevard and South State Street. It is still in the planning phase, but the plan is to connect the garage to the train station platform using an overhead bridge. Otherwise it would increase the pedestrian crossings on Washington Boulevard significantly.
- The intersection design prioritizes vehicles; the priority should be pedestrians. This is of greatest concern at the intersections by the train station when there is a mass exodus. Visual cues could help direct people. Wayfinding is needed to provide directional, distance and destination information.

- Just north of the RSA corridor two HAWK crossing systems have been installed with pedestrian islands in order to improve the pedestrian experience.
- While there are cyclists on Washington Boulevard the priority would be to relocate as many as possible to Atlantic Street and the future Mill River Greenway, which are more bike friendly.
- There is no direct path from the mid-block crossing on North State Street to the train station.
- UBS campus has an extensive lawn and walkway system but it does not connect cleanly with the crosswalks. They do not want to encourage the public to use it. Currently the building is unoccupied.

2.4 City Comments on Chapter 2

The City made several comments on the draft RSA report that were reviewed and incorporated in this final document. Some comments were not incorporated, as follows:

- A more detailed discussion of accident patterns was not part of the RSA process. Crash data was obtained for the purpose of identifying specific patterns that could point to geometric or operational issues that would impact the recommendations in the audit. For example, an unusually high rear-end crash rate at a single location could indicate a sight line issue or signal timing problem. Where crash rates and patterns were within expectations for the type of roadway and traffic volumes, more detailed analysis was not undertaken.

3 RSA Assessment

3.1 Field Audit Observations

Washington Boulevard

- There are four travel lanes, two in each direction, plus intermittent center turning lanes at the intersections.
- The roadway is 56 feet wide.
- There is no shoulder striping or bike lanes between Tresser Boulevard and Station Place.

There are bike lanes on Washington Boulevard south of Station place.

- The pavement is in fair condition but beginning to deteriorate, there is some cracking and pot holes (Figure 5).
- There are several bus stops along the corridor but very few have shelters.
- There is concrete sidewalk with concrete curbing along the west side of Washington Boulevard and granite curb along the east side.
- Where there is a snow shelf along the sidewalk, trees and bushes have been planted. There is no street furniture.
- In front of the RBS entrance on the west side of the road there are intermittent snow shelves and a vehicle drop off zone. This can be confusing for pedestrians because the sidewalk path is not clear.
- There are heavy volumes of traffic, even during non-peak hours.
- The concrete curbing is broken or missing in several locations (Figure 6).
- There are bicycle friendly catch basin grates.
- Many of the sidewalk ramps at driveways are not ADA compliant.
- The parking garage entrance for the building on the northwest corner of the Division Street intersection is half concrete and half brick pavers. Some of the pavers are broken or missing. There are no tactile warning strips on the ramps (Figure 7). Less than 40 feet south of this driveway is an old curb cut, which is no longer in use.

Figure 5. Pavement on Washington Boulevard Beginning to Deteriorate

Figure 6. Broken Curbing

Figure 7. Driveway Entrance With Mixed Material and No Tactile Warning Strips

- There are no tactile warning strips for the sidewalk ramps at the parking garage entrance for the building between Division Street and Richmond Hill Avenue.
- In front of the RBS building there is a car drop off area that is no longer used. It forces pedestrians to go around it but many cut through because it looks like a walkway (Figure 8).
- The corridor lacks general wayfinding.

Figure 8. RBS Drop-off Area Which Looks Like Pedestrian Walk Way

Tresser Boulevard & Washington Boulevard (Figure 9)

- There are marked crosswalks across all four legs of the intersection. They are painted red and white in a bar pattern, using stamping to mimic pavers.
- There are only ADA tactile warning strips on the southwest corner, the other three corners do not have them.
- The intersection has concurrent pedestrian phases. The pedestrian signal to cross Tresser Boulevard (North-South) must be actuated, but the pedestrian signal to cross Washington Boulevard (east-west) is automatic with the east-west vehicle phase.
- The pedestrian signals have countdown heads but there is no audible indication.
- The pedestrian push button signs on the southwest corner of the intersection are confusing. There is a sign to push the button to cross Washington Boulevard but no button because the pedestrian signal is automatic with the Tresser Boulevard phase (Figure 10).
- There is a lot of pedestrian activity at this intersection; several people were observed not waiting for the pedestrian walk signal.

Figure 9. Washington Boulevard and Tresser Boulevard Intersection

Figure 10. Confusing Pedestrian Push Button Placards

- There are center islands on both sides of Tresser Boulevard. The island on the west side of the road is approximately two feet wide and has a tactile warning strip, this does not meet the ADA standard for placement and gives the false sense one is leaving the roadway. (Figure 11). The east side island does not have the warning strips.

- There are center islands on both sides of Washington Boulevard. The Island on the north side is two feet wide, which is not sufficient waiting space. The island on the southern side is wide enough to be a pedestrian refuge.

- There is a high visibility (lighted) "No turn on red" sign for Washington Boulevard.

- The sidewalk on the west side of Washington Boulevard ranges from 9 to 15 feet in width and has a buffer of plantings in front of #75 Tresser Boulevard to prevent jaywalking. The sidewalk is in good condition (Figure 12). To the south, the sidewalk narrows and the condition is fair (Figure 13).

Figure 11. Center Island with Tactile Warning Strip That is Not Compliant

Figure 12. Sidewalk with Decorative Planting Strip to Prevent Jaywalking

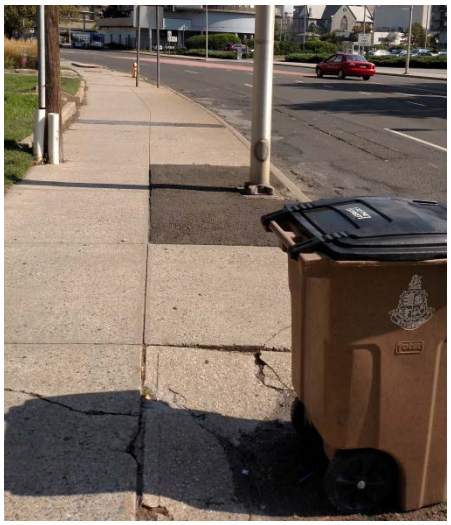


Figure 13. Sidewalk Narrows and Begins to Crack

Washington Boulevard and Division Street

- The ramps in the northwest and southwest corners are cracked and broken (Figure 14).

- There are crosswalks across all legs of this intersection but the ramps are not ADA compliant, and lack tactile warning strips. The crosswalk across the north leg of Washington Boulevard is diagonal and long. (Figure 15).

Figure 14. Cracked Sidewalk Ramp Without Tactile Warning Strips

Figure 15. Long Diagonal Crossing Across Washington Boulevard

- The pedestrian signal phases are concurrent. There are pedestrian signal heads but they are not countdown or audible.
- The pedestrian push buttons are audible. The signs are the older "Push Button for Walk Signal" and do not indicate which button is for which crossing (concurrent signal).
- Traffic from the Richmond Hill Avenue intersection backs up into this intersection and vehicles block the intersection (Figure 16).
- There is jaywalking at this intersection due to the time between when the crossing pushbutton is pushed and the signal is activated. It appears that the signal is running on a background cycle, which will delay the pedestrian timing until a pre-determined point in the system cycle.
- South of Division Street the sidewalk on the west side is 9 feet wide, with no buffer.

Figure 16. Traffic Backing-up Into the Intersection

Figure 17. No Turn on Red Flashing Sign

Washington Boulevard and Richmond Hill Avenue

- This intersection has an exclusive pedestrian phase. As a result, the traffic backs up along Washington Boulevard.
- There are three legs to this intersection, with all approaches prohibiting right turn on red (Figure 17).
- There are crosswalks across all legs of this intersection and each ramp has tactile warning strips. These ADA ramps are not aligned properly to direct pedestrians into the crosswalks. (Figure 18).

Figure 18. Crosswalk Across Washington Boulevard, Tactile Warning Strip is Worn Down

- In the northern crosswalk across Washington Boulevard there is a gate valve that has settled and creates a tripping hazard.
- The pushbuttons and signs are placed in such a way that they indicate they are to cross Washington Boulevard and not Richmond Hill.
- There is jaywalking at this intersection due to the time between when the crossing pushbutton is pushed and the signal is activated. It appears that the signal is running on a background cycle, which will delay the pedestrian timing until a pre-determined point in the system cycle.

Figure 19. Don't Block The Box Pavement Markings

Washington Boulevard and North State Street (one way, westbound)

- This is a four leg intersection with a channelizing island for right turns from North State Street to Washington Boulevard. The pedestrian crossing phase is concurrent with traffic.

Figure 20. Faded Crosswalk

- The east leg of the intersection is the on-ramp for south I-95.
- There are "Don't block the box" pavement markings in the center of intersection (Figure 19).
- The crosswalk across the I-95 South ramp is faded (Figure 20).
- The crosswalk to the channelizing island across Washington Boulevard does not have an ADA accessible ramp (Figure 21).
- There is no right on red for northbound travel on Washington Boulevard.
- Under the I-95 bridge, the support columns split the sidewalk in half, reducing the size and providing confusion as to which side to walk on (Figure 22).

Figure 21. Missing ADA Ramp

Figure 22. Sidewalk Under the I-95 Bridge

Washington Boulevard and South State Street (one way, eastbound) (Figure 23)

- This intersection has an exclusive pedestrian phase.
- The crosswalks across the southern side of Washington Boulevard and west side of South State Street are skewed.
- There are "Don't block the box" pavement markings in the center of intersection.
- The pedestrian heads are not countdown and not audible.
- Cars heading northbound on Washington Boulevard are prohibited from taking a right on red.
- Pedestrians do not wait for pedestrian signal and jaywalk.
- There are no tactile warning strips on the southern ramps or in the northwest corner of the intersection (Figure 24).
- The pedestrian signal to cross Washington Boulevard has 7 seconds of walk time, followed by 23 seconds after the warning hand appears. There does not appear to be enough time to cross. The longest crosswalk is approximately 125 feet in length.
- The metal fence in the southeast corner by the station is broken (Figure 25).
- The landing ramp in the southeast corner is small, with insufficient depth. It does not meet current ADA standards.

Figure 23. Washington Boulevard and South State Street Intersection

Figure 24. Tactile Warning Strips Missing

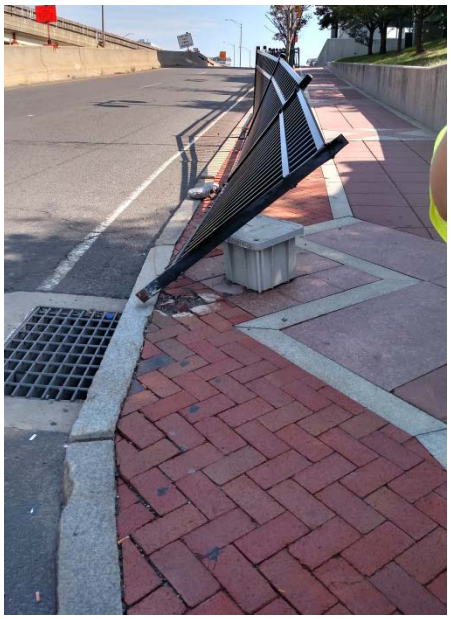


Figure 25. Broken Metal Fence

Under the Metro North Railroad Bridge

- The sidewalk is seven feet wide.
- The platform entrance for the Stamford rail station is located at the southwest corner of the bridge.
- It is very dark under the bridge. Several of the lights are out under the bridge (Figure 26).
- The south bound sign for I-95 is faded and unreadable (Figure 27).
- The street lighting pole is in the middle of the sidewalk.
- This is the only location in the RSA area which has shoulder lines.
- The route signs in the northeast corner are in the middle of the sidewalk and do not meet minimum height requirements.

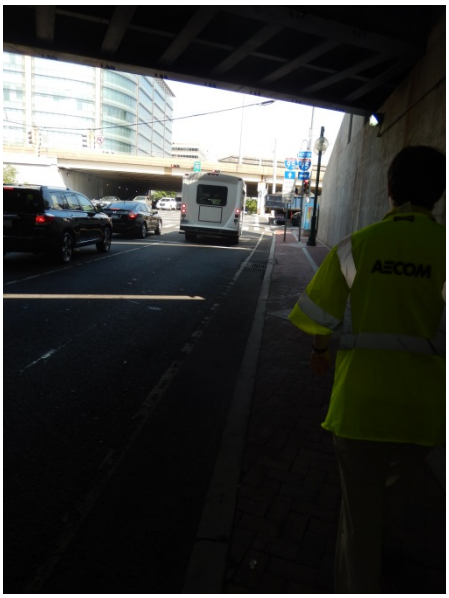


Figure 26. Lack of Lighting Under the Metro north Rail Road Bridge

Figure 27. Faded Signage

Washington Boulevard and Station Place

- There is a signalized channelizing island for rights from Station place onto Washington Boulevard northbound. The island has a pedestrian push buttons to call up the crossing phase. There are no tactile warning strips on the island and there is also no tactile warning strip on the NE curb ramp, north of the island (Figure 28).
- There are crosswalks across Station place and the southern side of Washington Boulevard. The northeast curb ramp is the only ramp with tactile warning strips.
- The sidewalk is approximately 7 feet wide.
- The sidewalk across Washington Boulevard is painted with red and white stripes.

Figure 28. Channelizing Island Lacking Tactile Warning Strips

- The northeast ramp does not have tactile warning strips.
- Upon pushing the pedestrian crossing button, the phase comes up quickly.

Other

- CTDOT is raising the mid-block crosswalk (creating a speed hump) on North State Street to create awareness since this is a heavily used crossing.
- The lawn in front of the UBS building (on the east side of Washington Boulevard) acts as an urban park (Figure 29).

Figure 29. UBS Building Lawn

3.2 Post-Audit Workshop - Key Issues

- All of the concurrent signals have pedestrian phases on recall to cross the side streets. This is why there is only one push button. The signs do not clearly indicate which crossing the button is for and the buttons are located at equal distance from the crosswalk.
- The state is upgrading signals statewide to include countdown heads, audible and tactile pushbuttons.
- The pedestrian island at Tresser Boulevard has tactile warning strips but the refuge area does not meet the minimum width (six feet). This provides a false sense of security, especially to the visually impaired that they are leaving the roadway. (Figure 30).
- There are sporadic mismatched vegetated buffers along the sidewalk with inconsistent lighting. Continual decorative landscaped buffers could help reduce mid-block crossings and channel pedestrians from the train station. (Figure 31).

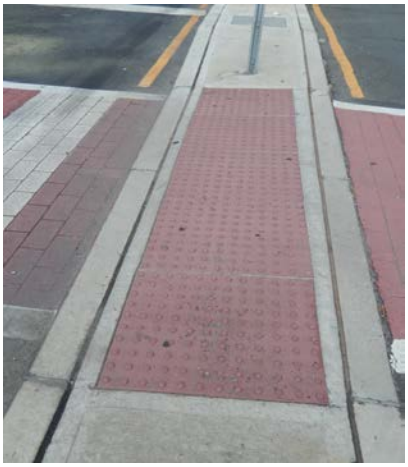


Figure 30. Non-Compliant Island Area

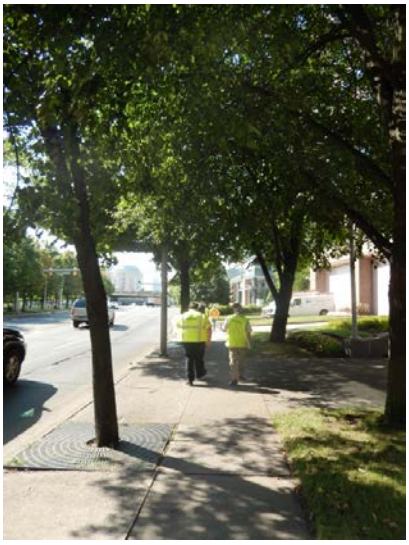


Figure 31. Inconsistent Buffers

- The UBS driveway loop is too close to the sidewalk (Figure 32). This area should be considered for redesign. Options discussed include:
  1) closing off the driveway,
  2) making it two way on the south side by removing the bollards,
  3) removing the outbound section of the loop and having vehicles exit through the parking lot.

  With any option the crosswalk on the north side of Washington Boulevard should be realigned to provide a more direct path. The push button would have to be relocated as well.

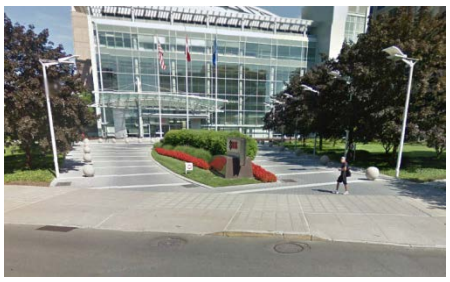


Figure 32. UBS Driveway Loop

- Traffic backs up into the Division Street intersection from Richmond Hill Avenue and blocks the intersection. This makes it difficult for vehicles turning onto Division Street. Much of the traffic back up can be attributed the exclusive pedestrian signal phase at Richmond Hill.
- There was discussion over the need for the Division Street Traffic Signal and if it meets warrants now that the UBS building is unoccupied. Concerns were raised about keeping it in order to have protected pedestrian crossings.
- The pavement on Washington Boulevard is in fair condition but deteriorating quickly. It is unknown where it is on the VIP list.
- At North State Street the channelizing island is signalized and has both red and green arrows and right on red is allowed. Vehicles often do not yield to pedestrians crossing when the signal is red. (Figure 33).
- At Tresser Boulevard the crosswalks are long and set back. Pulling them up closer to the intersection would shorten the crossing distances.

Figure 33. Pedestrian Crossing, Vehicles Don't Yield To

- There are lights in the trees at the UBS park and along the sidewalk edges but in general the park is not well lit (Figure 34).
- There are several bus stops along Washington Boulevard but many do not have shelters. The shelters are managed through the Stamford Transit District and to install new ones you must go through them. (Figure 35).
- Sidewalk improvements are needed between Richmond Hill Avenue and 200 feet south of Tresser Boulevard.
- Right turn signal and poor sight line at Station Place and Washington, add auxiliary pedestrian signal.
- In some locations tree branches are beginning to block to pedestrian signal heads, in particular the northeast corner of North State Street.

Figure 34. Lights in Trees

Figure 35. Bus Waiting at Stop

4 Recommendations

From the discussions during the Post-Audit meeting, the RSA team compiled a set of recommendations that are divided into short-term, mid-term, and long-term categories. For the purposes of the RSA, **Short-term** is understood to mean modifications that can be expected to be completed very quickly, perhaps within six months, and certainly in less than a year if funding is available. These include relatively low-cost alternatives, such as striping and signing, and items that do not require additional study, design, or investigation (such as right-of way acquisition). **Mid-term** recommendations may be more costly and require establishment of a funding source, or they may need some additional study or design in order to be accomplished. Nonetheless, they are relatively quick turn-around items, and should not require significant lengths of time before they can be implemented. Generally, they should be completed within a window of eighteen months to two years if funding is available. **Long-term** improvements are those that require substantial study and engineering, and may require significant funding mechanisms and/or right-of-way acquisition. These projects generally fall into a horizon of two years or more when funding is available.

4.1 Short Term

1. Make all pedestrian phases concurrent to save lost time and improve capacity.

2. Relocate the tactile warning strip in the pedestrian island along Tresser Boulevard to the ramp in the northwest corner of the Tresser Boulevard and Washington Boulevard intersection.
3. Install a bus shelter at southeast corner of Tresser Boulevard and Washington Boulevard
4. Repair broken pavers at the parking garage entrance for the building on the northwest corner of the Division Street (Figure 37).
5. Close the unused curb cut for Citibank at 750 Washington Boulevard (Figure 38).
6. Repair the broken ramps in the northwest and southwest corners of the Division Street intersection.
7. Paint and sign "do not block the box" at the Division Street Intersection.
8. Repair broken or missing concrete curbing.
9. Explore the potential removal of the Division Street signal.
10. Convert the Richmond Hill Avenue and South State Street pedestrian signals from exclusive to concurrent. Investigate signal changes such as lagging left turn phases, modified cycle lengths and pedestrian recall to improve safety.
11. Short cycle the Division Street signal to call up the pedestrian phase sooner.
12. Contact CTDOT to determine where Washington Boulevard is on the VIP list for repaving. If not, then the City can apply for STP Urban through WestCOG for resurfacing.
13. Fix sunken in gate valve in crosswalk at Richmond Hill Avenue (Figure 41).
14. Trim vegetation around pedestrian signals where beginning to encroach (Figure 44).
15. Install a "Yield to pedestrians on red sign" at the right turn for the channelizing island at North State Street or convert to no right on red (Figure 39).
16. Replace faded signs with new retroreflective ones.
17. Raise sign heights to seven feet when in the sidewalk (Figure 42).
18. Signage to mark the entrance and exit.
19. Fix bent One Way sign at North State Street (Figure 43).
20. Repair the broken railing at the southeast corner of South State Street and Washington Boulevard (Figure 40).
21. Repaint the faded crosswalk at North State Street.
22. Replace lighting under the railroad bridge (Figure 36).

Figure 45 depicts these recommendations.

Figure 36. Lighting to be Replaced

Figure 37. Pavers to be Repaired

Figure 38. Curb Cut to Close

Figure 39. Example of "Yield to pedestrians on red sign"

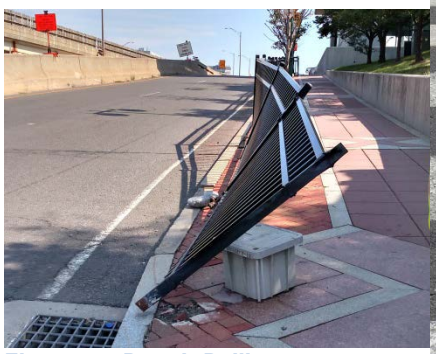


Figure 40. Repair Railing

Figure 41. Handhole which is Sunken in and Creates Tripping Hazard

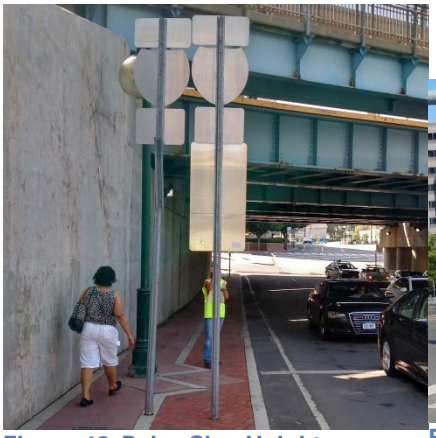


Figure 42. Raise Sign Heights

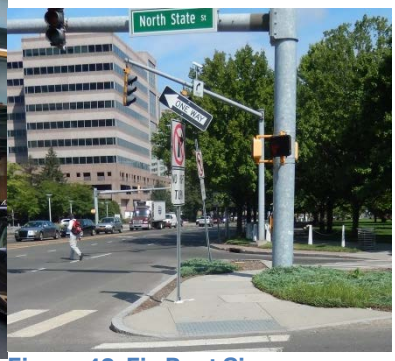


Figure 43. Fix Bent Sign

Figure 44. Trim Vegetation From Signal

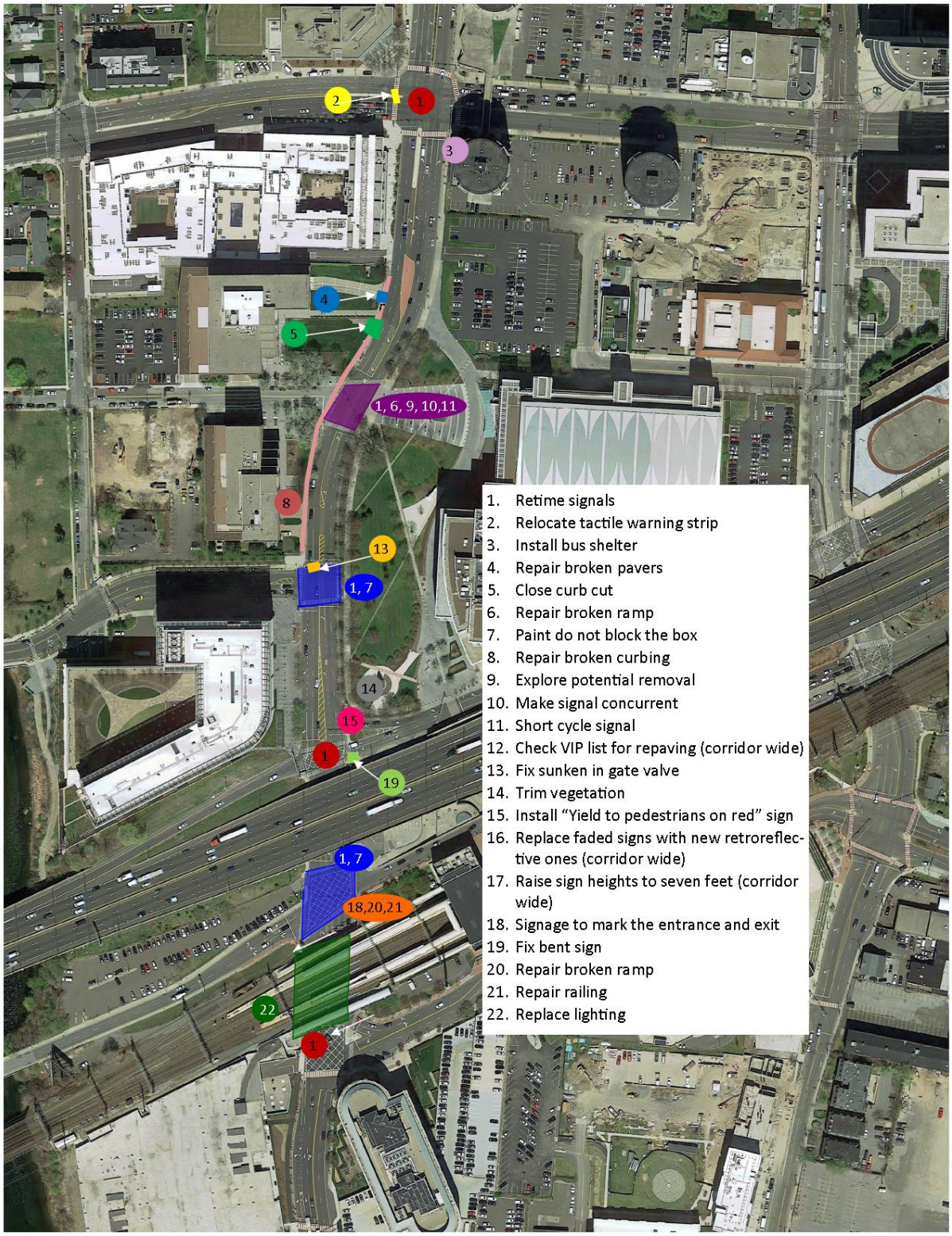


Figure 45. Short Term Recommendations

4.2 Medium Term

1. Upgrade pedestrian signals to be audible and include pushbuttons which are tactile, audible and directional at all signalized intersections (Figure 46).
2. Relocate the crosswalks at Tresser Boulevard closer to the intersection.
3. Install lighting and a buffer along the east side of Washington Boulevard between Division Street and Richmond Hill Avenue.
4. Install coordinated buffers with lighting, vegetation and landscape architecture along the sidewalks to prevent people from jaywalking mid-block.
5. Perform sidewalk rehabilitation along the east side of Washington Boulevard between Division Street and Richmond Hill Avenue.
6. Install tactile warning strips where missing. (Figure 48)
7. Landscape the asphalt sidewalk under the I-95 bridge with planters to direct pedestrians to the east side of the bridge support pillars.
8. Install a ramp on the North State Street channelizing island at the Washington Boulevard north crosswalk.
9. Remove sidewalk clutter on eastern sidewalk between Station Place and South State Street by relocating sign poles, street lightings and above ground handholes.
10. Increase the pedestrian refuge area in the channelizing island at North State Street.
11. Install pedestrian signal heads with countdown timers at Station Place and South State Street (Figure 47).
12. Redesign the landing ramp at the southeast corner of South State Street to provide sufficient width and depth.

Figure 49 depicts these recommendations.

Figure 46. ADA Push Button

Figure 47. Advanced Warning Pedestrian Crossing


Figure 48. Tactile Warning Strip

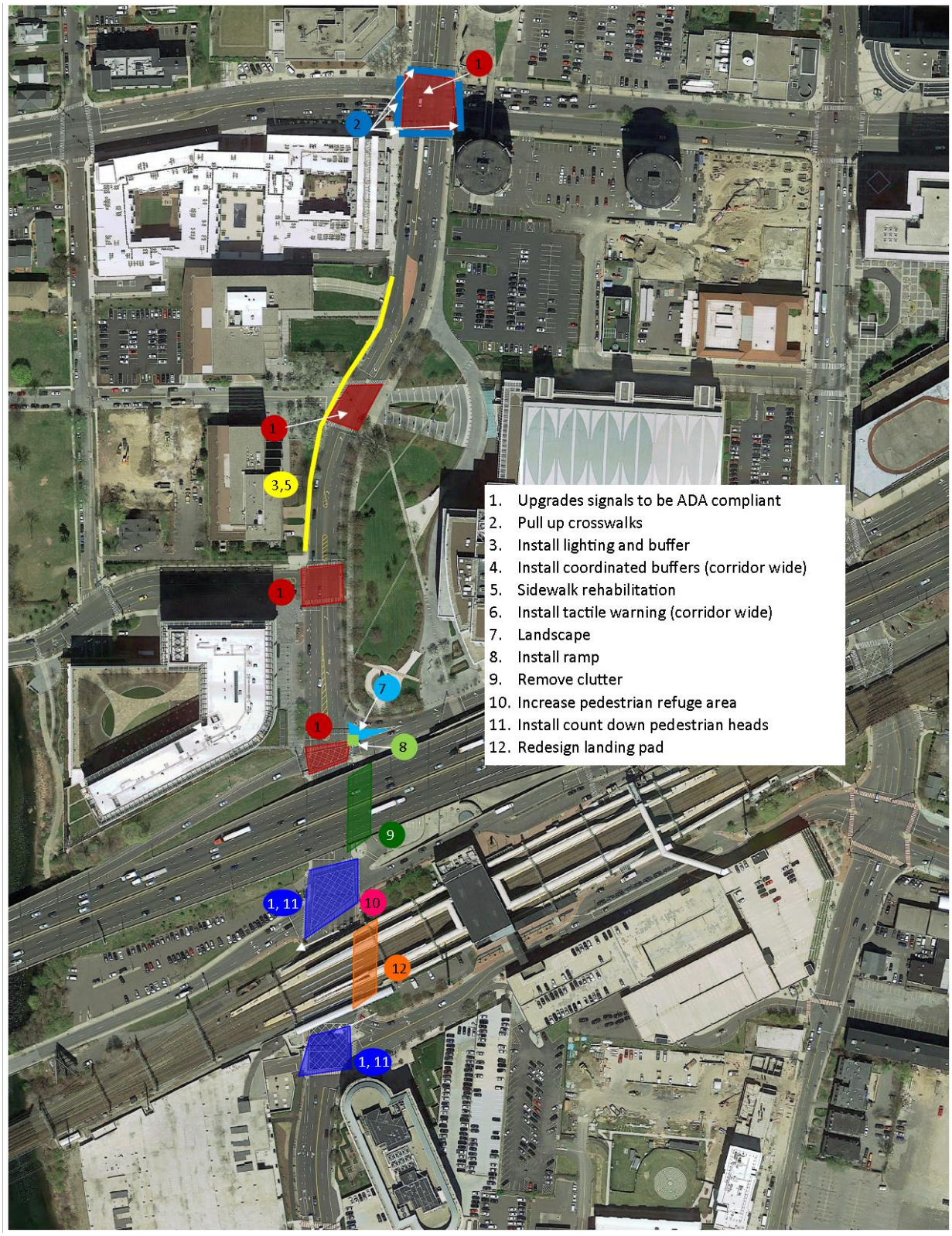


Figure 49. Mid Term Recommendations

4.3 Long Term

1. Relocate the pedestrian push buttons at Tresser Boulevard closer to the crossings they are for.
2. Implement access management along Washington Boulevard to limit the number of curb cuts.
3. Repave Washington Boulevard.
4. Redesign the UBS drop off loop in order to shorten the driveway crossing and realign the crosswalk. The pedestrian push button should be relocated to the new crosswalk ramp.
5. Install pedestrian lighting in the UBS park along the walkways.
6. Eliminate the drop-off area in front of the RBS building and redesign the sidewalk to improve pedestrian flow.
7. Add an auxiliary signal on the north east corner of Station Place and Washington Boulevard to improve the sightline.
8. Investigate the potential extension of Federal Street to intersect Washington Boulevard opposite Division Street.

Figure 50 depicts these recommendations.

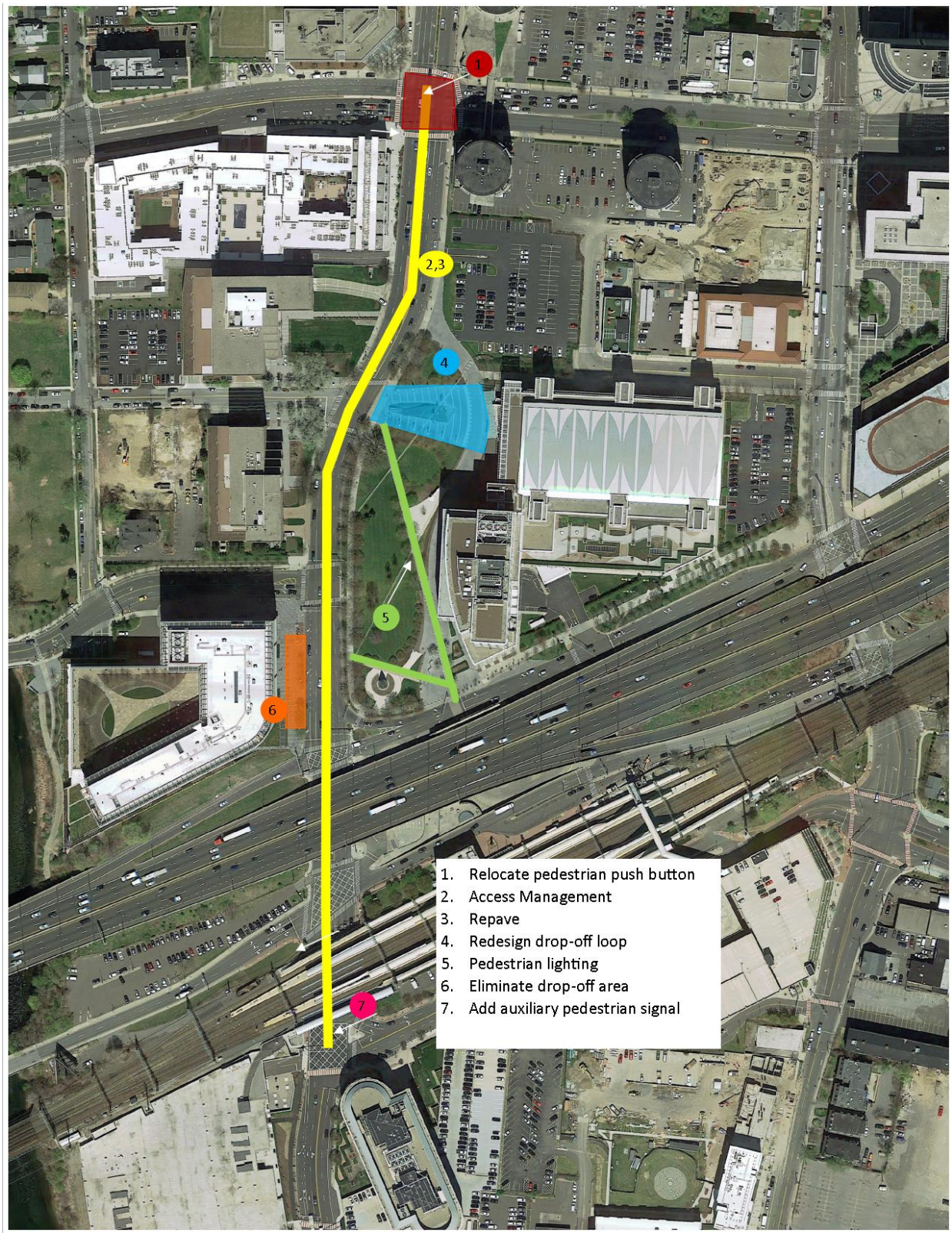


Figure 50. Long Term Recommendations

4.4 City Comments on Chapter 4

The City made several comments on the draft RSA report that were reviewed and incorporated in this final document. Some comments were not incorporated, as follows:

- It was requested that the party responsible for the various listed improvements be listed along with the improvement. However, in many cases, although the owner may be clearly identified, it may be possible for an alternate party to secure a funding source that allows the improvement to be completed in a more timely manner than the party that is technically responsible for the improvement. It is anticipated that the City will coordinate improvements with all interested parties to secure funding and to expedite the completion of the recommendations.

4.5 Summary

This report outlines the observations, discussions and recommendations developed during the RSA. It documents the successful completion of the City of Stamford RSA and provides Stamford with an outlined strategy to improve the transportation along Washington Boulevard for all road users at, particularly focusing on pedestrians. Moving forward, Stamford may use this report to prepare strategies for funding and implementing the improvements, and as a tool to plan for including these recommendations into future development along Washington Boulevard.

COMMUNITY
connectivity program

Appendix A

CONNECTICUT DEPARTMENT OF TRANSPORTATION

AECOM
Built to deliver a better world

Welcome to the Community Connectivity Program Application

Please fill in the following information to provide the Audit team leaders with a comprehensive description of the area contained in this application.

1. Applicant contact information

Name	Robert Zaitooni
Title	Traffic Engineer
Email Address	rzaitooni@stamfordct.gov
Telephone Number	(203) 977-1126

2. Location information

Address	Washington Street, from State St to Tresser Blvd
Description	Stamford Station
City / Town	Stamford, CT

3. Roadway type
(Please select all that apply)

- [x] **State road**
- [x] **Local road**
- [ ] **Private Road**
- [ ] **Other (please specify)**

4. Zoning
(Please select all that apply)

- [ ] **Industrial**
- [ ] **Residential**
- [x] **Commercial**
- [x] **Mixed Use**
- [x] **Retail**
- [ ] **N/A (not applicable)**
- [ ] **Other (please specify)**

Pedestrian path and movement to/from train station to/from office

5. Approximate mile radius around the location

1/8 mile

Other (Please Specify)

1/2 mile

6. Community Sites
(Please select all that apply)

- [x] **Community Centers**
- [x] **Business Districts**
- [ ] **Restaurant/Bar Districts**
- [ ] **Churches**
- [ ] **Housing Complexes**
- [ ] **Proximity to Schools**
- [ ] **Tourist Locations (examples – Casino, Malls, Parks, Aquarium, etc...)**
- [ ] **N/A (not applicable)**
- [x] **Other (please specify)**

Pedestrian path and movement to/from train station to/from office

7. Employment Facilities
(Retail, Industrial, etc...)

- [x] **Yes**
- [ ] **No**

If Yes please describe (please specify)

8. Educational facilities
(Please select all that apply)

- [ ] **Public, Parochial, Private Schools (more than 1 school within a ½ mile)**
- [ ] **University / Community Colleges**
- [ ] **N/A (not applicable)**
- [ ] **Other (please specify)**

9. Transit facilities
(Please select all that apply)

- [x] **Bus**
- [x] **Rail**
- [ ] **Ferry**
- [ ] **Airport**
- [x] **Park and Ride Lot**
- [ ] **N/A (not applicable)**
- [ ] **Other (please specify)**

10. Safety Concerns
(Please select all that apply)

- [x] **Traffic (volumes & speed)**
- [x] **Collisions**
- [x] **Sidewalks**
- [x] **Traffic Signals**
- [x] **Traffic Signs**
- [ ] **Parking Restrictions / Additions**
- [ ] **Drainage**
- [x] **ADA Accommodations**
- [ ] **Agricultural & Live Stock crossing**
- [ ] **Maintenance issues (cutting grass, leaves, snow removal)**
- [ ] **N/A (not applicable)**
- [ ] **Other (please specify)**

11. Are there any past, current or future transportation/economic development projects near this location (i.e. Federal, State or local projects)?

Yes

If Yes please describe and list all projects.

I-95 off ramp relocation

12. Environmental Concerns:

If Yes please describe and list.

13. Please explain why this location should be considered for an RSA

The current pedestrian movement and connectivity to/from Stamford Rail Station to/from the office building and government center; are not currently the most efficient and safe. Pedestrian features are provided at signalized intersections, however, pedestrians often cross at mid-block when gaps are available and/or press the actuation button but don't wait for the pedestrian signal.

Proximity to I-95 ramps may also be an influencing factor in driver/pedestrian behavior within the corridor.

The potential for a vehicular-pedestrian crash is high within the corridor. Need to evaluate more efficient patterns to ensure protection of the pedestrian while maintaining an acceptable vehicular level-of-service.

14. Are there plans to expand the area?
(Transportation Oriented Development, Economic Development, housing, etc...)

Yes

There are plans for additional high density residential building as well as office building within walking distance of the center of the project.

15. Any other pertinent information that is unique to this location?

Yes

The unique aspect of this location is that the area is a confluence of the Stamford Rail Station, I-95 Interchange, City government center, and City center with office and residential.

Thank you for completing the Community Connectivity application.

Please click on the "submit button" below and include the following attachments

1. Location map (google, GIS) **(Required)**
2. Collision data (If available)
3. Traffic data (ADT or VMT) (If available)
4. Pedestrian/bicycle data (If available)

Submit Application

COMMUNITY
connectivity program

Appendix B

Built to deliver a better world

Road Safety Audit

Town: Stamford
RSA Location: Washington Blvd
Meeting Location: Stamford Government Center (Floor 7, Transportation Conference Room)
Address: 888 Washington Blvd, Stamford, CT 06901
Date: 9/8/2016
Time: 8:30 AM

Participating Audit Team Members

Audit Team Member	Agency/Organization
Kristin Hadjstylianos	WestCOG
Mary Miltimore	FHI-Fitzgualt & Halliday
Steve Mitchell	Aecom
Robin Stein	City
Andy Gallagher	Stamford Police
Sue Bretthauer	Stamford Police
Anthony Carolluzzi	Highways
Emily Provonsha	City Transportation
Joshua Benson	Stamford
Kevin Tedesco	CTDOT
Anna Bergeron	CTDOT
Tanya Court	BCFC
Brian McLaughlin	CT Transit
Krystal Oldread	Aecom
Bridget Boucaud	VN Engineers

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Appendix C

Built to deliver a better world

Road Safety Audit – Stamford

Meeting Location: Stamford Government Center (Floor 7, Transportation Conference Room)
Address: 888 Washington Blvd, Stamford, CT 06901
Date: 9/8/2016
Time: 8:30 AM

Agenda

Type of Meeting: **Road Safety Audit – Pedestrian Safety**

Attendees: **Invited Participants to Comprise a Multidisciplinary Team**

Please Bring: **Thoughts and Enthusiasm!!**

8:30 AM **Welcome and Introductions**

- Purpose and Goals
- Agenda

8:45 AM **Pre-Audit**

- Definition of Study Area
- Review Site Specific Data:
  - Average Daily Traffic
  - Crash Data
  - Geometrics
- Issues
- Safety Procedures

10:00 AM **Audit**

- Visit Site
- As a group, identify areas for improvements

12:00 PM **Post-Audit Discussion / Completion of RSA**

- Discussion observations and finalize findings
- Discuss potential improvements and final recommendations
- Next Steps

2:30 PM **Adjourn for the Day – but the RSA has not ended**

Instruction for Participants:

- Before attending the RSA, participants are encouraged to observe the intersection and complete/consider elements on the RSA Prompt List with a focus on safety.
- All participants will be actively involved in the process throughout. Participants are encouraged to come with thoughts and ideas, but are reminded that the synergy that develops and respect for others' opinions are key elements to the success of the overall RSA process.
- After the RSA meeting, participants will be asked to comment and respond to the document materials to assure it is reflective of the RSA completed by the multidisciplinary team.

Audit Checklist

Pedestrians and Bicycles	Comment

Pedestrian Crossings
• Sufficient time to cross (signal)
• Signage
• Pavement Markings
• Detectable warning devices (signal)
• Adequate sight distance
• Wheelchair accessible ramps
  o Grades
  o Orientation
  o Tactile Warning Strips
• Pedestrian refuge at islands
• Other	

Pedestrian Facilities
• Sidewalk
  o Width
  o Grade
  o Materials/Condition
  o Drainage
  o Buffer
• Pedestrian lighting
• Pedestrian amenities (benches, trash receptacles)
• Other	

Bicycles • Bicycle facilities/design • Separation from traffic • Conflicts with on-street parking • Pedestrian Conflicts • Bicycle signal detection • Visibility • Roadway speed limit • Bicycle signage/markings • Shared Lane Width • Shoulder condition/width • Traffic volume • Heavy vehicles • Pavement condition • Other	

Roadway & Vehicles	
• Speed-related issues o Alignment; o Driver compliance with speed limits o Sight distance adequacy o Safe passing opportunities	
• Geometry o Road width (lanes, shoulders, medians); o Access points; o Drainage o Tapers and lane shifts o Roadside clear zone /slopes o Guide rails / protection systems	

• Intersections o Geometrics o Sight Distance o Traffic control devices o Safe storage for turning vehicles o Capacity Issues	

• Pavement
  o Pavement Condition (excessive roughness or rutting, potholes, loose material)
  o Edge drop-offs
  o Drainage issues
• Lighting Adequacy	

• Signing
  • Correct use of signing
  • Clear Message
  • Good placement for visibility
  • Adequate retroreflectivity
  • Proper support	

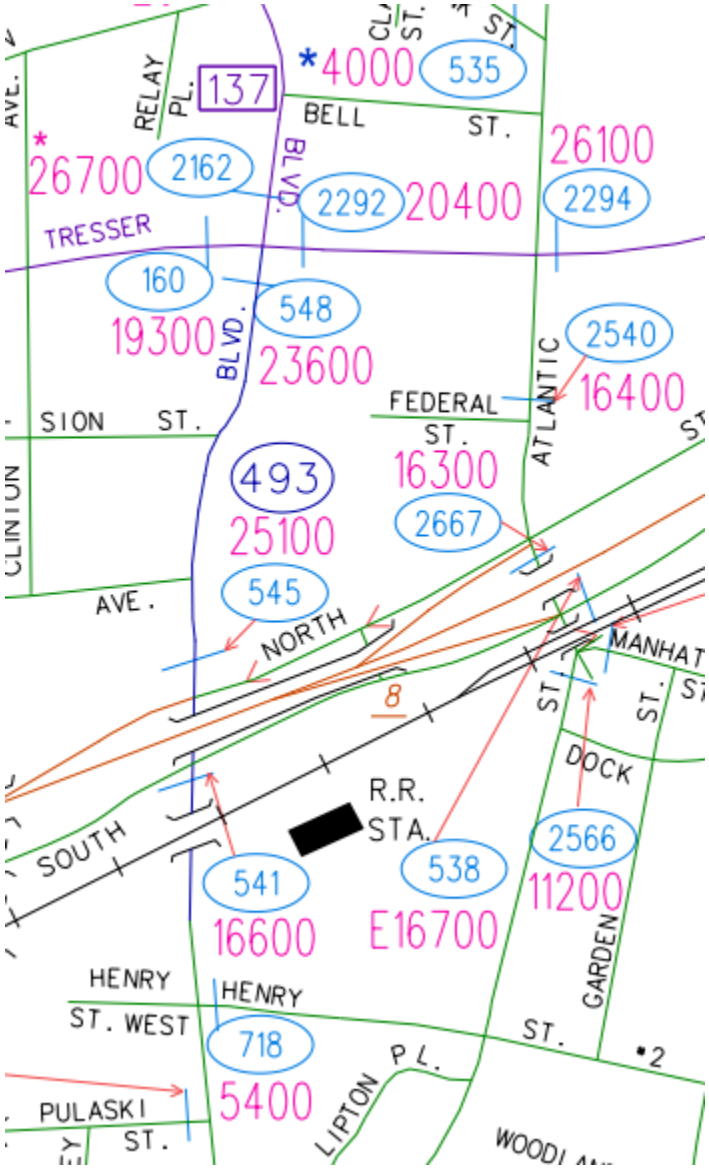
• Signals
  o Proper visibility
  o Proper operation
  o Efficient operation
  o Safe placement of equipment
  o Proper sight distance
  o Adequate capacity	

• Pavement Markings
  o Correct and consistent with MUTCD
  o Adequate visibility
  o Condition
  o Edgelines provided	

• Miscellaneous
  o Weather conditions impact on design features.
  o Snow storage	

LOCATION MAP

Average daily traffic (ADT)

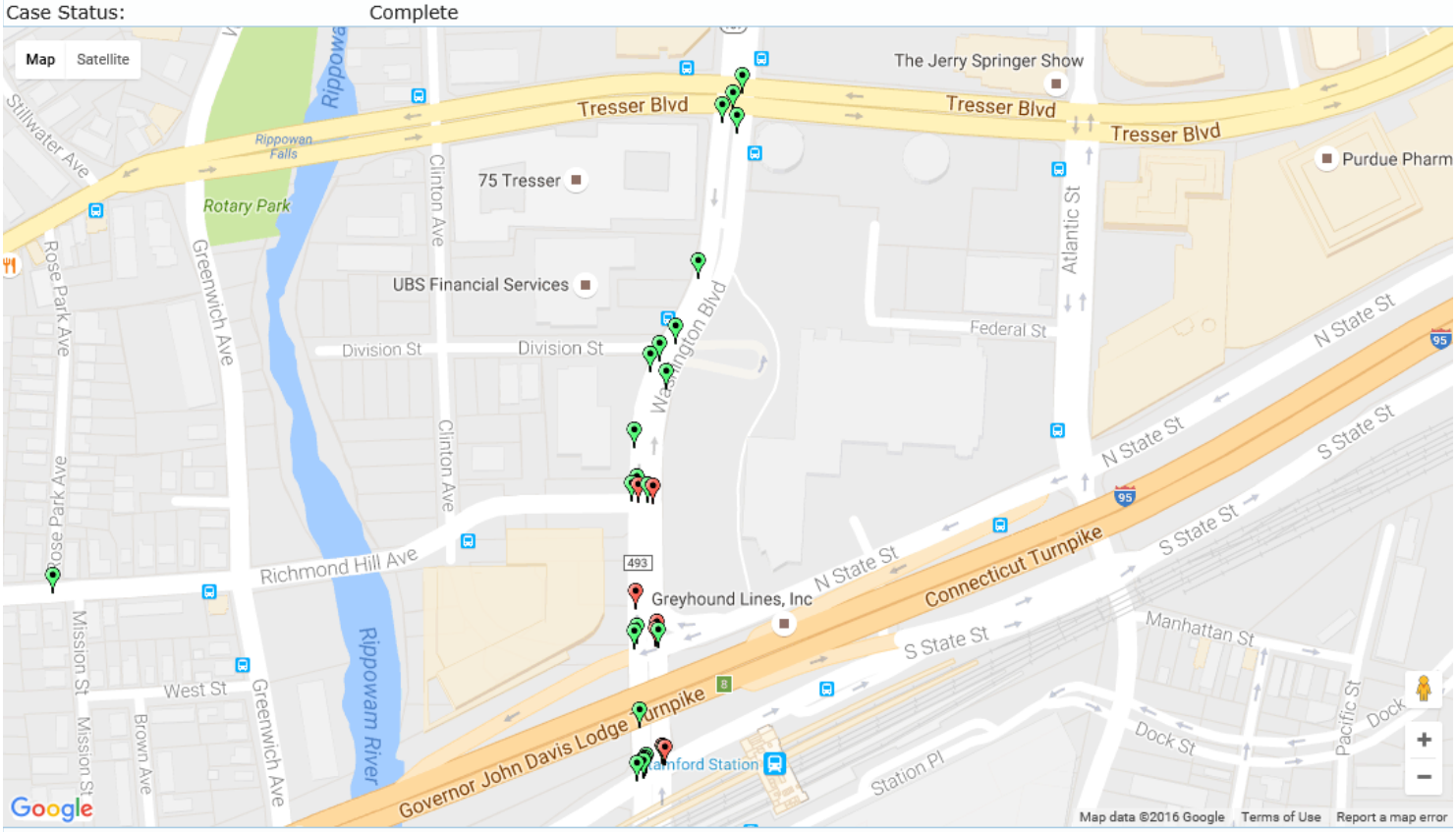


2015 Crashes

UCONN Connecticut Crash Data Repository

Search Criteria:

Dataset:	mmucc
Towns:	Stamford
Town & Route:	Town:135 Route:493 Intersection:undefined Milepost:-
Crash Severity:	Injury of any type (Serious, Minor, Possible), Fatal (Kill), Property Damage Only
Case Status:	Complete



Markers | Heatmap | Select & Query | Query Selection

Injury of any type (Serious, Minor, Possible) **Fatal (Kill)** **Property Damage Only**

Select All | Deselect All

Road Safety Audit – Stamford

Crash Summary

Data: 3 years (2012-2014)

There were no crashes that involved pedestrians.

There were no crashes involving bicyclists.

Severity Type	Number of Crashes	
Property Damage Only	87	79%
Injury (No fatality)	23	21%
Fatality	0	0%
Total	110	

Manner of Crash / Collision Impact	Number of Crashes	
Unknown	1	1%
Sideswipe-Same Direction	26	24%
Rear-end	41	37%
Turning-Intersecting Paths	8	7%
Turning-Opposite Direction	7	6%
Fixed Object	3	3%
Backing	1	1%
Angle	3	3%
Turning-Same Direction	13	12%
Moving Object	1	1%
Parking	0	0%
Pedestrian	6	5%
Overturn	0	0%
Head-on	0	0%
Sideswipe-Opposite Direction	0	0%
Miscellaneous- Non Collision	0	0%
Total	110	

Weather Condition	Number of Crashes	
Snow	3	3%
Rain	8	7%
No Adverse Condition	93	85%
Unknown	6	5%
Blowing Sand, Soil, Dirt or Snow	0	0%
Severe Crosswinds	0	0%
Sleet, Hail	0	0%
Total	110	

Light Condition	Number of Crashes	
Dark-Not Lighted	2	2%
Dark-Lighted	25	23%
Daylight	75	68%
Dusk	0	0%
Unknown	8	7%
Dawn	0	0%
Total	110	

Road Surface Condition	Number of Crashes	
Snow/Slush	4	4%
Wet	11	10%
Dry	88	80%
Unknown	7	6%
Ice	0	0%
Other	0	0.0%
Total	110	

Time		Number of Crashes	
0:00	0:59	1	1%
1:00	1:59	1	1%
2:00	2:59	1	1%
3:00	3:59	1	1%
4:00	4:59	0	0%
5:00	5:59	0	0%
6:00	6:59	2	2%
7:00	7:59	6	5%
8:00	8:59	7	6%
9:00	9:59	7	6%
10:00	10:59	9	8%
11:00	11:59	7	6%
12:00	12:59	7	6%
13:00	13:59	3	3%
14:00	14:59	2	2%
15:00	15:59	3	3%
16:00	16:59	8	7%
17:00	17:59	14	13%
18:00	18:59	14	13%
19:00	19:59	6	5%
20:00	20:59	3	3%
21:00	21:59	3	3%
22:00	22:59	1	1%
23:00	23:59	4	4%
Total		110	

Stamford - Washington Blvd

Legend

- Sidewalk
- Crosswalk
- Median
- Railroad
- Signal Controlled Intersection
- One Way Street
- Highway On/Off Ramp

DRAFT

Tresser Blvd

Tresser Blvd

SPEED LIMIT 25

SPEED LIMIT 25

137

493

493

Washington Blvd

Division St

Richmond Hill Ave

Washington Blvd

N State St

S State St

95

95

1

1

Rte 493

Rte 493

Rte 493

Rte 493

Rte 493

S

S

S

S

S

N

Stamford Train Station

Post-Audit Discussion Guide

Safety Issues

- Confirmation of safety issues identified during walking audit

Potential Countermeasures

- Short Term recommendations

- Medium Term recommendations

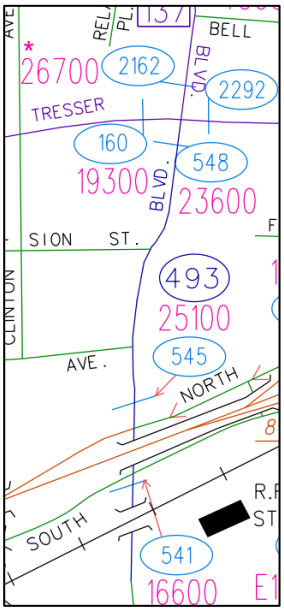
- Long Term recommendations

Next Steps

- Discussion regarding responsibilities for implementing the countermeasures (including funding)

Road Safety Audit – Stamford

Fact Sheet



Functional Classification:

- Washington Blvd is classified as a Principal Arterial

ADT

- ADT on Washington Blvd is 16,600 – 26,700

Population and Employment Data (2014):

- Population: 125,401
- Employment: 75,654

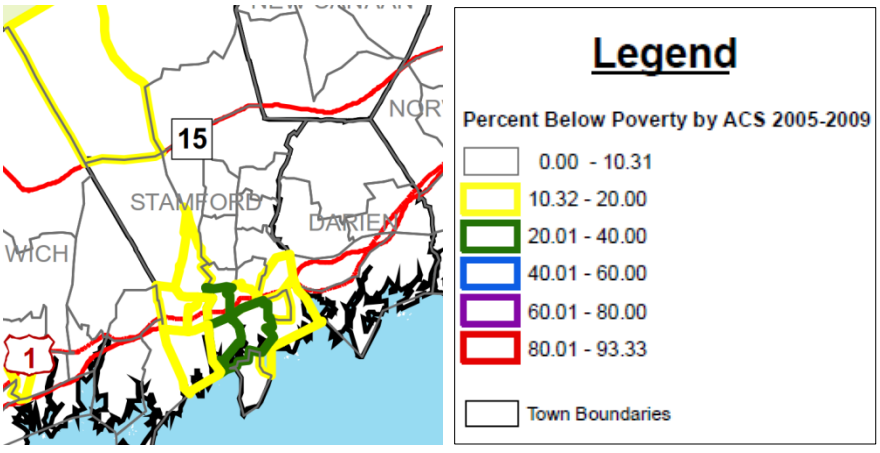
Urbanized Area

- Washington Blvd is in the Bridgeport-Stamford Urbanized Area

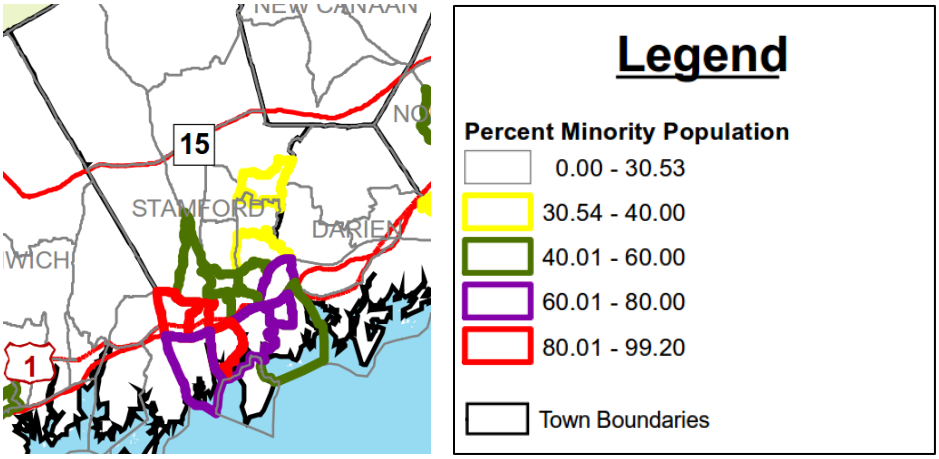
Demographics

- The statewide average percentage below the poverty line is 10.31%. Within the vicinity of Washington Blvd up to 40% of residents are below the poverty line

.



- The statewide average percentage minority population is 30.53%. Within the vicinity of Washington Blvd up to 80% of residents are minorities



Air Quality

- Stamford's CIPP number 118
- Stamford is within the NY/NJ/CT Marginal Ozone & the $PM_{2.5}$ Attainment/Maintenance Areas
- Stamford is within a CO Maintenance Area

COMMUNITY
connectivity program

Appendix D

AECOM
Built to deliver a better world

WALKABLE STAMFORD

RECOMMENDATIONS FOR CREATING A PEDESTRIAN-FRIENDLY DOWNTOWN

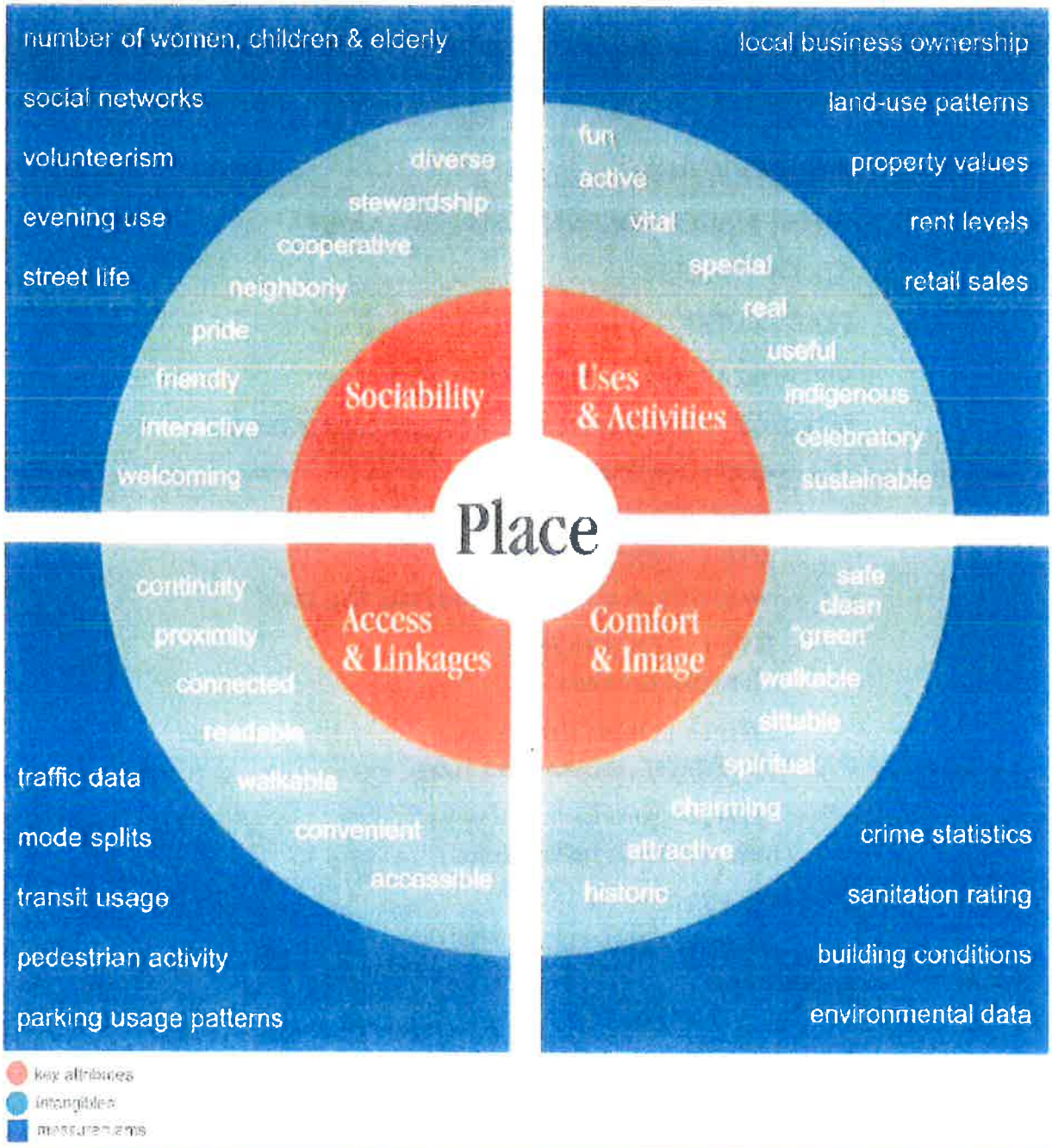
AUGUST 2008

PPS
PROJECT *for*
PUBLIC SPACES

TABLE OF CONTENTS

A great public space is like a magnet for people. People go there not only because they must pass through, but because it is just pleasant to be there. What draws them? What makes an otherwise ordinary street, plaza, or square into a magnet for people? In over 30 years studying public spaces, PPS has found that four key attributes typically characterize a great place.

QUALITIES OF GREAT PUBLIC SPACES



INTRODUCTION

Great downtowns are also great walking environments. They offer a balance of transportation alternatives, interesting architecture and ground floor uses, small blocks, attractive amenities, well known destinations, outdoor activities and frequent events, civic spaces and natural settings, all surrounded by vibrant neighborhoods.

These are the features and characteristics that Stamford should strive to attain throughout its entire downtown. Stamford has great assets on which to build, including great restaurants, thousands of residents and employees within walking distance, and the second busiest train station in the entire Metro-North system. The challenge is how to better connect these assets with good urban design and public space management to create a safe and welcoming environment to people who live, work and visit Stamford.

Towards this end, and at the urging of the Royal Bank of Scotland (RBS) whose new office building at the intersection of Washington Boulevard and N. State Street is slated to open in 2009, the City of Stamford hired Project for Public Spaces, Inc. (PPS), a New York-based non-profit that has worked on the design and management of public spaces in over 2500 communities, to examine the pedestrian environment in downtown Stamford and produce this report of recommendations for improvement.

This report is divided into three parts. It begins by describing some fundamental qualities of pedestrian friendly downtowns. Next, it summarizes the process undertaken by PPS in formulating its recommendations. Finally, each site studied is assessed and a mix of short- and long-term conceptual recommendations are presented.

The recommendations included in this document aim to achieve the qualities described on PPS's "Place Diagram: What Makes a Great Place?" (shown at left). This conceptual diagram outlines the major attributes of well-functioning places, along with the intangible qualities that people use to describe them and the elements that can be used to measure their success. The major attributes outlined on the diagram are sociability, uses and activities, access and linkages, and comfort and image.

Using this framework for successful public spaces, PPS's approach to Placemaking engages people to create a vision around the places they view as important to community life and their daily experience by identifying the needs and assets within the community. These stakeholders then become both the stewards and beneficiaries of the public space improvements they identify. The "Walkable Stamford" project engaged both public and private sector interests, including the City of Stamford, Connecticut Department of Transportation, the Downtown Special Services (business improvement) District, large employers like RBS and UBS, and developers such as Antares Investment Group. The success of downtown Stamford largely rests on their cooperation. Many different players control pieces of the puzzle in downtown Stamford, and uniting this area as one walkable district will require clear communication channels, as well as political and financial support.

While improvements require both public and private cooperation, the overriding goal is to transform Stamford from a place people merely walk through to a place they don't want to leave. Stamford is capable of connecting its existing assets and creating synergies that will make the downtown much greater than the sum of its parts.

WHAT MAKES A DOWNTOWN WALKABLE?

DESTINATIONS

Generating pedestrian activity requires destinations that attract people for different reasons throughout the day, week, and year. Some destinations should support regular daily activities (things people need to do), while others should provide unique events and activities (things people like to do). A lively downtown connects destinations and cultivates at least "ten things to do" at or near each one.

Stamford has emerging destinations in one area of downtown (Bedford Street, Stamford Town Center), but those near the train station are one-dimensional (employment centers, train station) and need a broader range of uses to attract people. This is especially important since Stamford, unlike other Connecticut cities like New Haven and Hartford, lacks major pedestrian destinations like world class museums, downtown historic districts, and universities with a resident student body.

The Ferguson Library is a high quality destination in downtown Stamford.

PROGRAMMING

Management is essential to creating active and lively downtowns. The City of Stamford, businesses, and cultural institutions are just a few of the organizations coordinating events that draw people downtown on evenings and weekends. Daytime events should also be held to entice office workers to venture outdoors during the day.

The Stamford Downtown Special Services District (DSSD), gives the city a competitive advantage in programming; their signature Live @ Five summer concert series at Columbus Park attracts crowds of up to 5,000 to downtown Stamford. However, activating many public spaces at all times requires coordination and teamwork between many organizations.

Events like the Stamford Farmers Market draw people downtown.

CONNECTIVITY

All streets in downtown Stamford should be comfortable pedestrian environments that encourage strolling, create synergy among downtown's destinations and. reduce driving. Streets and sidewalks are public rights of way, and therefore, it is imperative to plan these spaces to be safe, attractive, and convenient for a complete range of transportation modes and users, regardless of their ability. The rapid pace of downtown redevelopment creates the perfect opportunity to leverage private funds to reconstruct streets in this manner.

Some City and State staff, however, still prioritize the elimination of vehicular delays during the peak hour over the comfort of pedestrians in the downtown all day long. Stamford will never become a walkable, urban place if it does not accept some level of traffic congestion.

Creating bicycle routes is a low cost, high return infrastructure investment. An increasingly popular trend, municipalities have found that bicycles support economic development, community development, and public health policies.

INFORMATION & SIGNAGE

Information and convenience influence how people spend their time in a city. Information kiosks, community bulletin boards, banners, flags, historic plaques, storefront displays, signage, view sheds and sightlines are opportunities to showcase downtown Stamford.

Wayfinding in Stamford should include a mix of well located formal devices like kiosks and intriguing features that serve as "mental speed bumps" that capture the attention of pedestrians and motorists, conveying that they are in a special place. The City is planning to install five new kiosks in downtown. These should provide multiple services and be located near existing and potential destinations to help generate a critical mass of pedestrian activity.

A positive identity and image are communicated with historic, informative and attractive signage.

TRANSPORTATION DIVERSITY

People are attracted to areas with unique pedestrian features that can include attractive alleyways, shared streets, pedestrian malls and natural trails. Some streets already feature unique elements (angle parking on Bedford Street), and this strategy should be expanded throughout the downtown. This is especially important near the train station where the local and state roads surrounding I-95 should be designed less for vehicular traffic and more for pedestrians.

The proliferation of current and future downtown redevelopment projects, as well as the planned riverfront trail, provide Stamford a number of immediate opportunities to create different types of pedestrian and bicycle connections.

Boulder, Colorado encourages new developments to improve pedestrian connections by creating interesting short cuts near retail and transit oriented developments.

FLEXIBILITY

Many streets can support overlapping and changing uses depending on the time of day, day of week, or season. Sidewalks should be wide enough to accommodate outdoor seating, street vendors, and amenities like bicycle racks, benches, planters, public art and signage.

Portland, Oregon's "festival streets" are an innovative street type that has eliminated the curb, allowing the street to also serve as a plaza for events. This strategy should be explored for streets that do not serve regional traffic, such as Bedford, Main and Franklin Streets. This strategy must be complemented by active programming to give people a reason to come and stay downtown.

"Festival Streets" are designed for both vehicular traffic and easy street closings for community events.

IDENTITY

The streets of downtown Stamford should be a showcase for local assets, and intriguing ground floor uses, or the lack thereof, determine and define the pedestrian experience. Active edge uses will draw people out of their cars and encourage them to walk and explore the city more deeply.

Additionally, to help brand the entirety of downtown and improve the sense of place, a comprehensive signage program should be developed by the City and DSSD. This could potentially build off the preliminary efforts of the "rail trail" program, which indicates pedestrian linkages to the train station. Walk! Philadelphia and Downtown LA Walks are good models of this comprehensive approach in other cities.

Active street edges offer interesting storefronts and visual continuity that encourages longer walking trips.

AMENITIES

Pedestrians have a predictable set of human needs. Successful street amenities satisfy basic needs (safety and comfort) and anticipate higher human needs (socialization and visual interest). Management and attention to detail are essential.

Some parts of downtown Stamford are very comfortable while others are void of pedestrian amenities. The streets around the transportation center are far too important to the success of downtown to overlook pedestrians' needs. Visually interesting storefronts, shopping and dining en route to and from the station, places to sit, and safer pedestrian crossings are critical to overcoming the divisive nature of I-95 and binding disparate parts of Stamford together.

In New Haven, the removal of only 2 parking spaces allowed for creation of a small corner plaza. Curb extensions like this improve pedestrian safety, support surrounding businesses, and offer a concentration of pedestrian amenities.

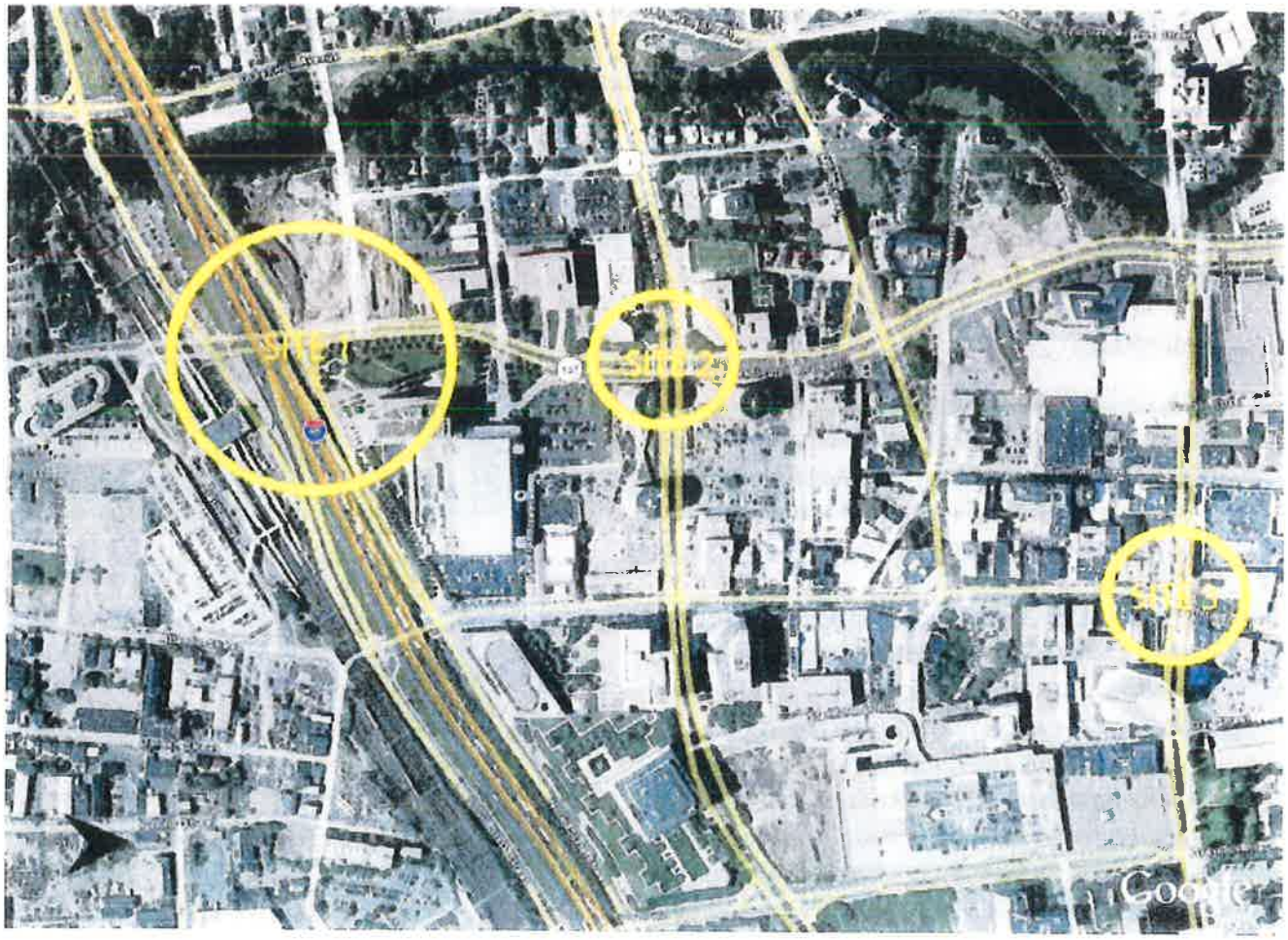
STUDY PROCESS

The issues and recommendations included in this report are the product of several data collection and visioning efforts. These recommendations are organized by site and describe the problems that are preventing each one from becoming a successful public space, as well as short- and long-term ideas for improvement.

On December 4, 2007, between the hours of 7 am and 4 pm, PPS staff observed the following three sites (as shown in the graphic below) for the purpose of recording time-lapse photography and studying behaviors and conditions relevant to improving the pedestrian environment.

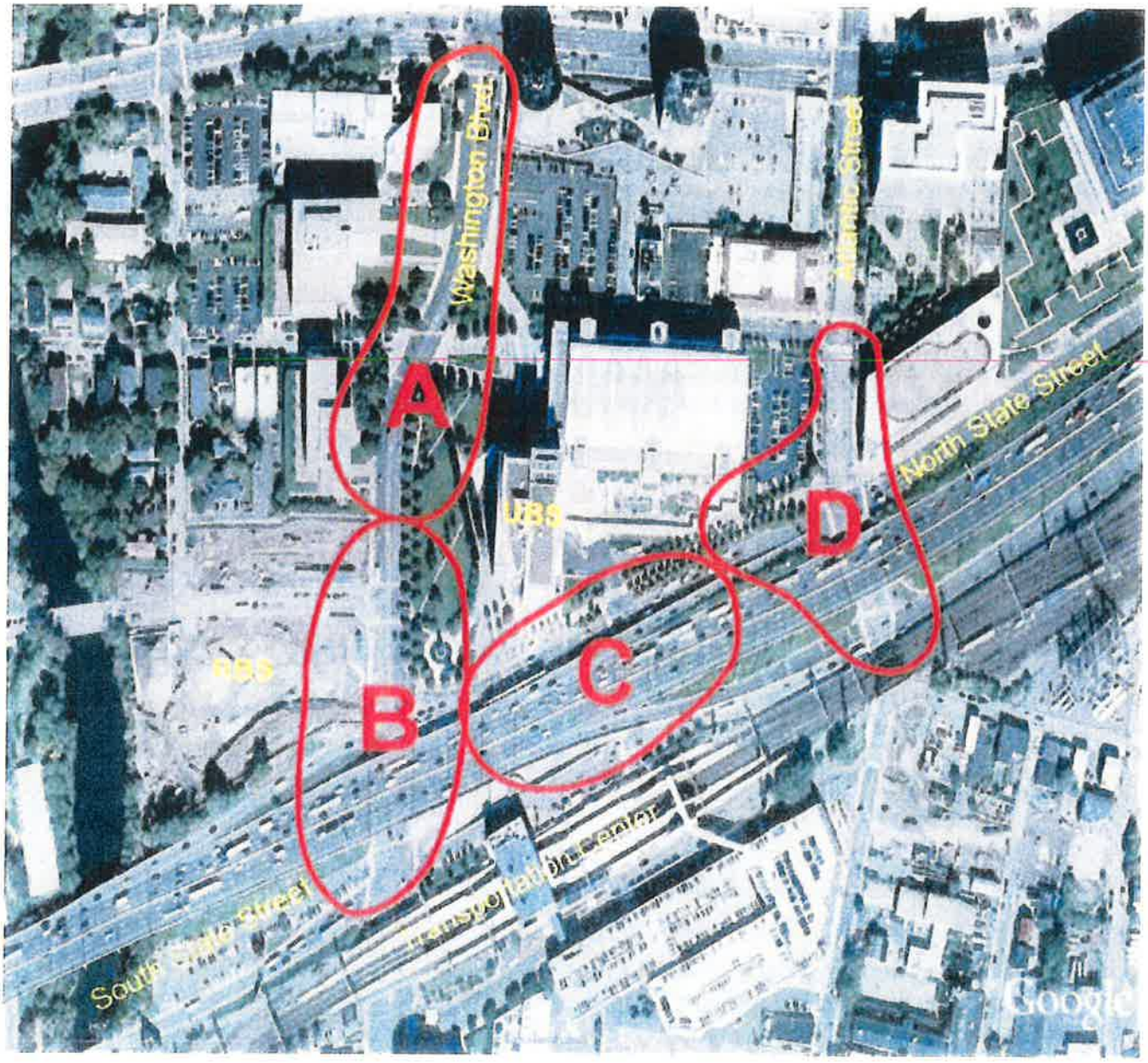
- Site #1 – Stamford Transportation Center/UBS/RBS
- Site #2 – Tresser Boulevard (US Route 1) & Washington Boulevard (CT Route 137) – Municipal Building
- Site #3 – Broad/Bedford/Atlantic Streets – Downtown's 100% Intersection

The problems and potential recommendations that emerged from this exercise have been supplemented by the outcomes of a PPS Placemaking workshop that focused on the public spaces around Site 1.



Sites Observed by PPS

PPS facilitated a stakeholder workshop on April 22, 2008, to assess and brainstorm improvement ideas for the public spaces around the Stamford Transportation Center, UBS and the future site of RBS. Following a presentation on the qualities of successful public space, the workshop attendees were broken into four groups that each focused on one of the locations shown below. The groups evaluated their assigned site using the "Place Audit" described on the following pages. The outcomes of the workshop have been incorporated into the site-by-site recommendations in this report.



Site 1 Locations Evaluated at the Placemaking Workshop

PLACE AUDIT

Community Place Audits are a means to better understand issues and opportunities for improving and supporting the experience of people in a place. Using the qualities of great public spaces, workshop participants completed Place Audits for four different locations around the train station. The Place Audit asks participants to use common sense and intuition along with structured observation and interview skills to allow them to very quickly see the good and bad qualities of a place, and suggest improvements, both short and long term. It ignites a creative process about how to make a place vital and great.

3 STEP PLACE AUDIT PROCESS:

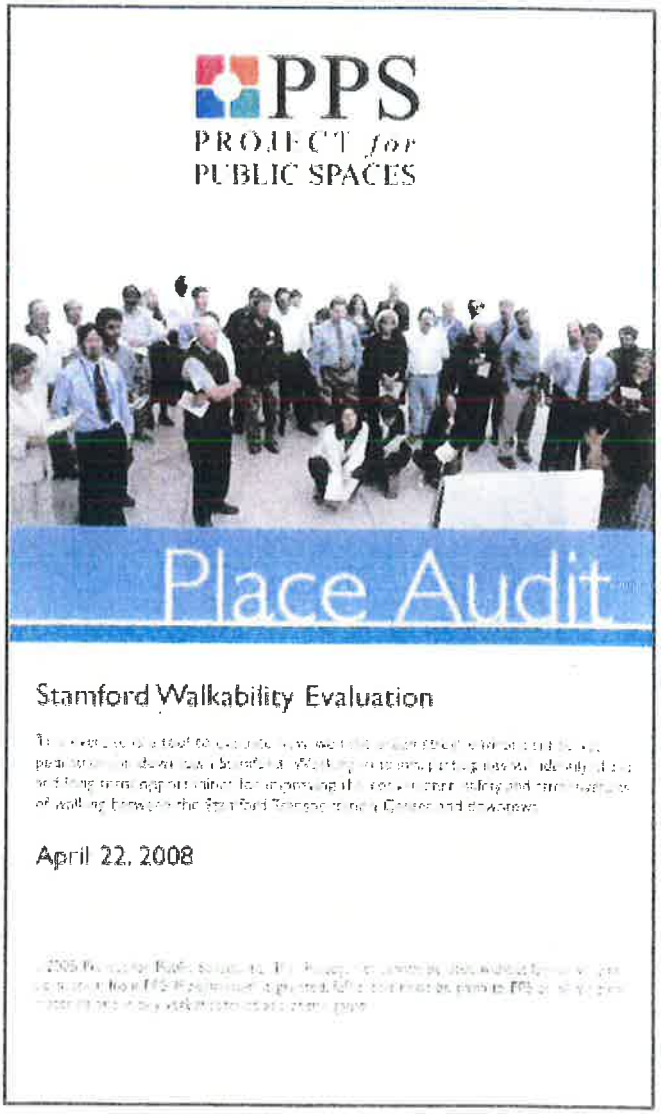
1. Using the criteria detailed on the next page, workshop participants break into groups and go outside to perform the Place Audit at one of the following locations:

   - A - Washington Blvd. between new Richmond Hill Avenue and Tresser Blvd.
   - B - Washington Blvd. between new Richmond Hill Avenue and S. State Street
   - C - N. and S. State Streets between UBS and the Transportation Center
   - D - Atlantic Street between Federal Street and S. State Street

2. Participants return to discuss the Place Audit, draw recommendations and summarize their group's ideas for:

   - What they liked best about the site;
   - Short-term improvements;
   - Long term vision;
   - Partnerships and local talent.

3. Each group reports back to all workshop participants, describing issues and opportunities they identified for this area.



ACCESS, LINKAGES & INFORMATION

- Pedestrians can easily walk to & through the site
- Sidewalks connect to adjacent areas
- Crosswalks are well marked
- Crossing distances are minimized
- Children could safely cross the street alone
- Walk signal is long enough for senior citizens
- Curb cuts and cross walks accommodate the disabled and strollers
- Bus stops and transit stations are easy to find
- Stops and stations are easy to get to on foot
- Bicycle routes are well marked, safe & convenient
- Bicycle parking is adequate
- There is adequate directional signage, maps and information about destinations

COMFORT & IMAGE

- The place projects a positive image
- Automobiles do not detract from the pedestrian experience
- The road is attractive and fits its surroundings
- There are choices of places to sit in sun & shade
- The place is in a state of good repair
- The place is neat and clean
- The place feels safe
- The place is well lighted
- Stores and cafes spill onto the sidewalk
- Waste receptacles are available nearby
- Lighting fixtures are operable and attractive
- Seating is available nearby

USES & ACTIVITIES

- The place is busy at many times throughout the day and week
- People are using the spaces in and around the place for many types of activities
- There are several choices of things to do and it is easy to go from one activity to another
- Uses are easily visible and inviting for pedestrians
- Continuity of street-level uses makes for a pleasant walking environment
- Space is provided for shopping, dining, playing, markets and community events and exhibitions
- Restrooms are available nearby
- Newsstands are available nearby
- Shops and restaurants are available nearby
- Convenience items are available nearby

SOCIABILITY

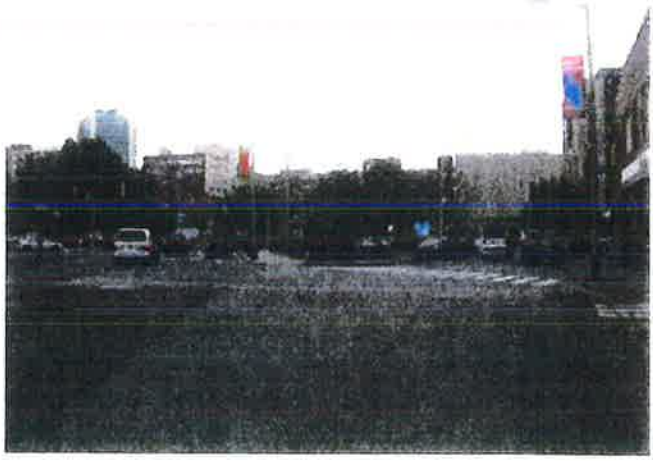
- Pedestrians use the place regularly by choice for reasons other than travel
- There are places to gather, there is evidence people use the space in groups
- Strangers make eye contact, people smile and display affection
- Chance encounters happen frequently, people tend to run into people they know
- There is a mix of ages, sexes, ethnic groups that generally reflects the community at large

OVERALL ISSUES & RECOMMENDATIONS

The issues and recommendations described here are overarching and generally apply to the entirety of downtown. The remainder of this report will detail site-specific issues and recommendations for improving the walkability and urban experience in downtown Stamford.

STREETS THAT DIVIDE

Although there are sidewalks throughout downtown Stamford, this basic infrastructure does not go far enough in creating a pleasurable pedestrian environment. High speed roads are currently acting as barriers, and the design of downtown's streets are out of context and incompatible with the heavy pedestrian volumes that already exist (not to mention a growth in pedestrian traffic given the rapid pace of downtown redevelopment). Overall, the streets communicate that Stamford is an area for cars, not people. This report contains many specific recommendations to move away from streets that divide to streets that unite.



Main Street

PEDESTRIAN WAYFINDING, ORIENTATION AND ACCESS

Workshop participants continually highlighted the need to install wayfinding information to give people clear direction of where to go in downtown Stamford, or information as to why they may want to explore the area beyond their immediate purpose.

SINGLE-USE TRANSIT FACILITY

The Stamford Transportation Center is failing to meet its potential as a community asset because it only serves one purpose and is cut off from the rest of downtown Stamford. The City and State must strike a balance between using the transit center for mobility and developing it into a full-service destination for people. Ironically, despite being over-programmed for transit functionality, the station fails to provide comfortable pedestrian access and connectivity to adjacent land uses. Walking routes in and round the station must provide more ground floor retail and convenience services. A future study of the Stamford Transportation Center should be undertaken to develop a placemaking concept for how the center could be reconfigured, reshaped and reintegrated with surrounding areas through additional uses and activities.

PUBLIC AMENITIES

PPS observations and workshop findings revealed an imperative to provide public amenities to better serve the pedestrian, including more seating options, landscaping and flower planters, drinking fountains, better signage, lighting to enhance nighttime visibility, visitors information kiosks, newsstands, bike racks, trash and recycling bins, and wireless internet access.

UBS Plaza

UBS PLAZA MANAGEMENT

In order to span the gap between downtown Stamford and the area around the Stamford Transportation Center, the UBS plaza needs to be activated with programmed events and daily activities to encourage more active use of this public green. Workshop participants saw the plaza as a beautiful space with the potential for great cultural, economic, and civic vibrancy. They discussed expanding the commercial opportunities of the space, including use of wireless internet, eating or reading at movable tables and chairs, and events (e.g., festivals and performances) that may attract corporate sponsorship. This space is a valuable asset in a city with limited venues for outdoor events.

This strategy will also go a long way towards enhancing the security of the UBS complex, a critical consideration for UBS. More effectively than bollards and surveillance cameras, supporting positive outdoor activity during all parts of the day, week and year will provide more "eyes" on the space and make the space self-policing. Communities begin to take ownership over the place, which further reduces the possibility of illegal or dangerous activities.

URBAN DEVELOPMENT

In order to truly transform downtown Stamford into a walkable place that attracts residents, workers and visitors from near and far, private development being undertaken in the city must be designed to support street life. Street design, pedestrian connections around the train station and active public spaces are vital ingredients in this recipe, but without a balanced mix of land uses and interesting ground floors, large building setbacks, parking lots, dead sidewalks and blank walls contribute to a perceived lack of safety and the dominance of cars. Stamford cannot become a wonderful, walkable place without a major change in the way development shapes the city's streets. This is not just in the interest of the public because, aside from the benefits walking has on physical and mental health, the environment and building community, walkable places are also more economically competitive and correspond with higher land values and retail sales. For the city to realize its potential, developers must consider themselves vested partners in transforming downtown Stamford.

Tresser Boulevard

The area around the Transportation Center is a particular challenge, as it currently fits the characteristics of an "Edge City," which, according to Joel Garreau, is defined as a legitimate destination for limited activities and limited times of the day or week. These areas are commonly located along major highway corridors, not too far from city cores. One major challenge of an edge city environment is sustaining an urban level of activity throughout the day and the week.

SITE 1 - LOCATION A

WASHINGTON BOULEVARD - TRESSER TO RICHMOND HILL

Site 1A encompasses Washington Boulevard between Tresser Boulevard and the planned intersection at Richmond Hill Avenue. This area also includes the UBS driveway and the northern portion of the outdoor UBS plaza.

Washington Boulevard - Looking South from the Stamford Government Center

SITE EVALUATION

As shown in the ratings on the following page, this area is well maintained and has the basic infrastructure to accommodate pedestrian traffic, such as sidewalks, crosswalks and ADA curb cuts. Additionally, the workshop participants noted that the UBS plaza has aesthetically pleasing features that visually invite pedestrians to walk through the space.

Washington Boulevard, however, is not designed to fit into its urban context and is likely a deterrent to the presence of children, seniors and cyclists. South of Tresser Boulevard, Washington loses the urban design elements that it has to the north, including on-street parking, a planted median, and aesthetic lampposts. Their absence communicates to motorists that they are no longer in "downtown" and should speed up as they approach the area around the Interstate. The gentle curve in Washington Boulevard is an existing feature that can help to slow traffic, but the dimensions of the roadway do not reinforce this desired behavior.

Additionally, there are few amenities or activities in this area to promote a comfortable pedestrian environment and entice people to linger here rather than merely passing through on their way to catch a train or bus.

Water Fountain with Comfortable Edge Seating

SHORT-TERM IMPROVEMENTS

In order to improve this area, the following short-term recommendations should be explored immediately.

- Add seating, sculptures and water fountains (photo at left) to the UBS plaza;
- Replace the asphalt paver paths through the UBS plaza with conventional or brick sidewalks that provide an larger and more fluid walkable space for pedestrians and can accommodate wheelchairs, strollers and women in high heels;

SITE 1A	Average Score	← POOR			→
Access and Linkages	2.0	1	2	3	4
Pedestrians can easily walk to and through the place	3.4				
Sidewalks connect to adjacent areas	3.6				
Crosswalks are well marked	3.6				
Crossing distances are minimized	1.5				
Children could safely cross the street alone	1.2				
Walk signal is long enough for senior citizens	1.6				
Curb cuts and cross walks accommodate disabled	3.3				
Bus stops and transit stations are easy to find	2.6				
Stops and stations are easy to get to on foot	3.3				
Bicycle routes are well marked, safe and convenient	1.2				
Bicycle parking is adequate	1.5				
There is adequate directional signage, maps and information about destinations	1.5				

Comfort and Image	1.9	1	2	3	4
From a distance the place presents a positive image	2.6				
Automobiles do not detract from the pedestrian experience	1.8				
The road is attractive and fits its surroundings	1.6				
There are choices of places to sit, both in sun and shade	1.0				
The place is in a state of good repair	3.3				
The place is neat and clean	3.2				
The place feels safe	3.2				
The place is well lighted	3.2				
Stores and cafes spill onto the sidewalk	1.0				
Waste receptacles are available nearby	1.4				
Lighting fixtures are operable and attractive	2.6				
Seating is available nearby	1.2				

Uses and Activities	1.3	1	2	3	4
The place is busy at many times throughout the day	2.4				
People are using the spaces in and around the place for many types of activities	1.6				
There are several choices of things to do and it is easy to go from one activity to another	1.4				
Uses are easily visible and inviting for pedestrians	1.0				
Continuity of street-level uses makes for a pleasant walking environment	1.2				
Space for shopping is provided	1.0				
Space for dining is provided	1.0				
Space for playing is provided	1.0				
Space for markets is provided	1.0				
Space for community events and exhibitions is provided	1.4				
Restrooms are available nearby	1.0				
Newstands are available nearby	1.4				
Shops and restaurants are available nearby	1.4				
Convenience items are available nearby	1.2				

Sociability	1.4	1	2	3	4
Pedestrians use the place regularly by choice for reasons other than travel	1.2				
There are places to gather, there is evidence people use the space in groups	1.4				
Strangers make eye contact, people smile and display affection	1.6				
Chance encounters happen frequently, people tend to run into people they know	2.0				
There is a mix of ages, sexes, ethnic groups that generally reflects the community at large	2.2				

KEY:

Poor	1
Fair	2
Good	3
Excellent	4

- Program the plaza with vendors, musicians (photo at right), etc. on a temporary and seasonal basis;
- Create a games area with tables for board games and jumbo chess (photo below). Game boards and pieces could be lent out by UBS security;
- Add a speed bump to the UBS driveway to slow traffic;
- Install more low-level, pedestrian-scaled lighting along Washington Boulevard;
- Add other street amenities such as seating, trash cans, and informational signage.

Street Musicians and Book Sale

- Increase the amount of pedestrian crossing time at intersections;
- Repair and widen sidewalks along Washington Boulevard.

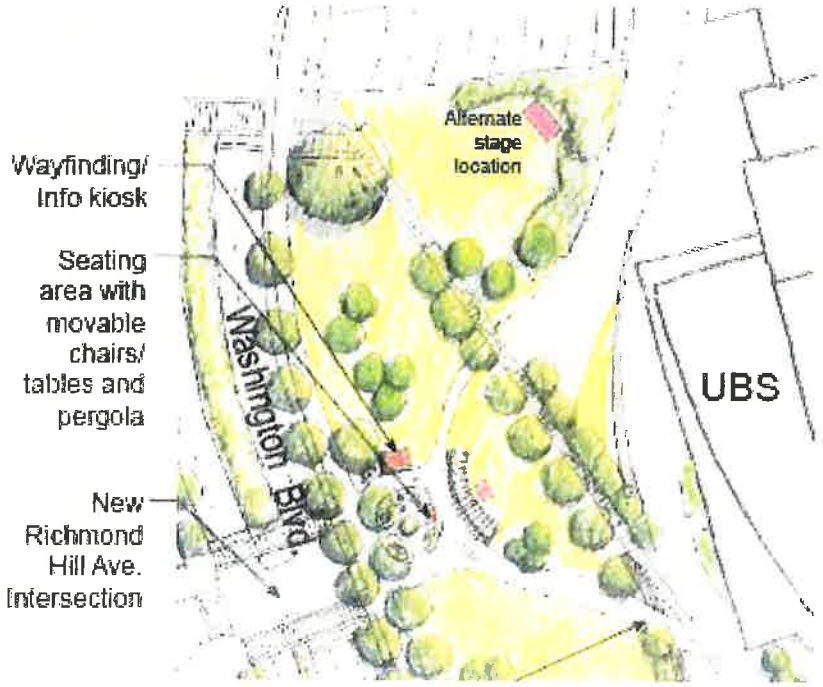
Jumbo Chess in Melbourne, Australia

LONG-TERM IMPROVEMENTS

Improvement ideas that require more lengthy processes, funding and partnerships should also be pursued towards the long-term goal of making all of downtown Stamford a comfortable place that encourages and rewards pedestrian travel.

- Redesign Washington Boulevard with landscaped medians that provide space for safe pedestrian refuge;

- Add ground-floor retail to new buildings being developed along this stretch of Washington, including a future building on the site of the UBS parking lot (immediately north of the existing UBS building) and the potential redevelopment of the old Stamford Advocate building (southwest corner of Washington and Tresser).



Site 1A Recommended Pedestrian Improvements

SITE 1 - LOCATION B

WASHINGTON BOULEVARD - RICHMOND HILL TO SOUTH STATE

Site 1B encompasses Washington Boulevard between the planned intersection at Richmond Hill Avenue and S. State Street. This area encompasses the new RBS building, the intersection of Washington Boulevard and N. State Street, and the southern portion of the outdoor UBS plaza.

Intersection of Washington Blvd. & N. State St. - Looking East from UBS Building

SITE EVALUATION

Similar to the section of Washington Boulevard immediately to the north, and as shown on the following page, this area is in a state of good repair. Likely due to the beautiful tree-lined sidewalk in front of UBS and the pedestrian islands around the intersection of Washington and N. State, workshop participants generally perceived this site to be more pedestrian friendly than Site 1A.

However, during off-peak periods high-speed traffic still dominates the area around N. State Street adjacent to the I-95 entrance and exit ramps. In addition, there is virtually no street-level commercial uses that would draw additional pedestrians to this area and provide "eyes on the street" during evening and late night hours. Participants also identified the poor visibility of the transportation center entrance.

Although most pedestrians from the train station currently use the mid-block crossing of N. State St. (see evaluation of Site 1C for volume comparison), there will be a significant increase in pedestrian traffic at the intersection of Washington Boulevard and N. State Street with the completion of the new RBS office building and new development to the south of I-95. This intersection does not currently provide for pedestrian crossings of all street approaches. There also does not seem to be sufficient vehicular turning movements to justify a channelized double right-turn lane from westbound N. State St. to northbound Washington Blvd., and the radius of this right turn is too large for a pedestrian area.

Intersection of Washington Blvd. & S. State St.

The intersection of Washington Blvd. and S. State St. was not designed to accommodate pedestrian traffic. Despite a steady flow of pedestrians coming from offices, the hotel, parking and housing to the south and west, the intersection is very large, and many pedestrians do not make it all the way across Washington on one cycle length, forcing them to wait in the middle of the roadway. There is barely any sidewalk width on the southwest corner of the intersection, which forces passing pedestrians to walk in the street, and new residential development to the south will increase pedestrian volumes. Further complicating this situation are the shuttle buses that back up traffic while waiting to enter their drop-off and pick-up area--a situation that could easily be remedied.

SITE 1B	Average Score	← POOR			→
Access and Linkages	2.3	1	2	3	4
Pedestrians can easily walk to and through the place	2.7				
Sidewalks connect to adjacent areas	3.5				
Crosswalks are well marked	2.5				
Crossing distances are minimized	3.0				
Children could safely cross the street alone	2.0				
Walk signal is long enough for senior citizens	2.7				
Curb cuts and cross walks accommodate disabled	4.0				
Bus stops and transit stations are easy to find	1.7				
Stops and stations are easy to get to on foot	2.5				
Bicycle routes are well marked, safe and convenient	1.0				
Bicycle parking is adequate	1.0				
There is adequate directional signage, maps and information about destinations	1.3				
Comfort and Image	2.0	1	2	3	4
From a distance the place presents a positive image	2.5				
Automobiles do not detract from the pedestrian experience	1.8				
The road is attractive and fits its surroundings	1.5				
There are choices of places to sit, both in sun and shade	1.8				
The place is in a state of good repair	3.5				
The place is neat and clean	3.3				
The place feels safe	3.0				
The place is well lighted	3.0				
Stores and cafes spill onto the sidewalk	1.3				
Waste receptacles are available nearby	2.0				
Lighting fixtures are operable and attractive	3.7				
Seating is available nearby	1.3				
Uses and Activities	1.3	1	2	3	4
The place is busy at many times throughout the day	2.3				
People are using the spaces in and around the place for many types of activities	1.0				
There are several choices of things to do and it is easy to go from one activity to another	1.0				
Uses are easily visible and inviting for pedestrians	1.3				
Continuity of street-level uses makes for a pleasant walking environment	1.3				
Space for shopping is provided	1.0				
Space for dining is provided	1.3				
Space for playing is provided	1.0				
Space for markets is provided	1.0				
Space for community events and exhibitions is provided	1.3				
Restrooms are available nearby	1.5				
Newsstands are available nearby	1.5				
Shops and restaurants are available nearby	1.7				
Convenience items are available nearby	2.3				
Sociability	1.5	1	2	3	4
Pedestrians use the place regularly by choice for reasons other than travel	2.0				
There are places to gather, there is evidence people use the space in groups	1.3				
Strangers make eye contact, people smile and display affection	1.7				
Chance encounters happen frequently, people tend to run into people they know	1.7				
There is a mix of ages, sexes, ethnic groups that generally reflects the community at large	2.3				

KEY:

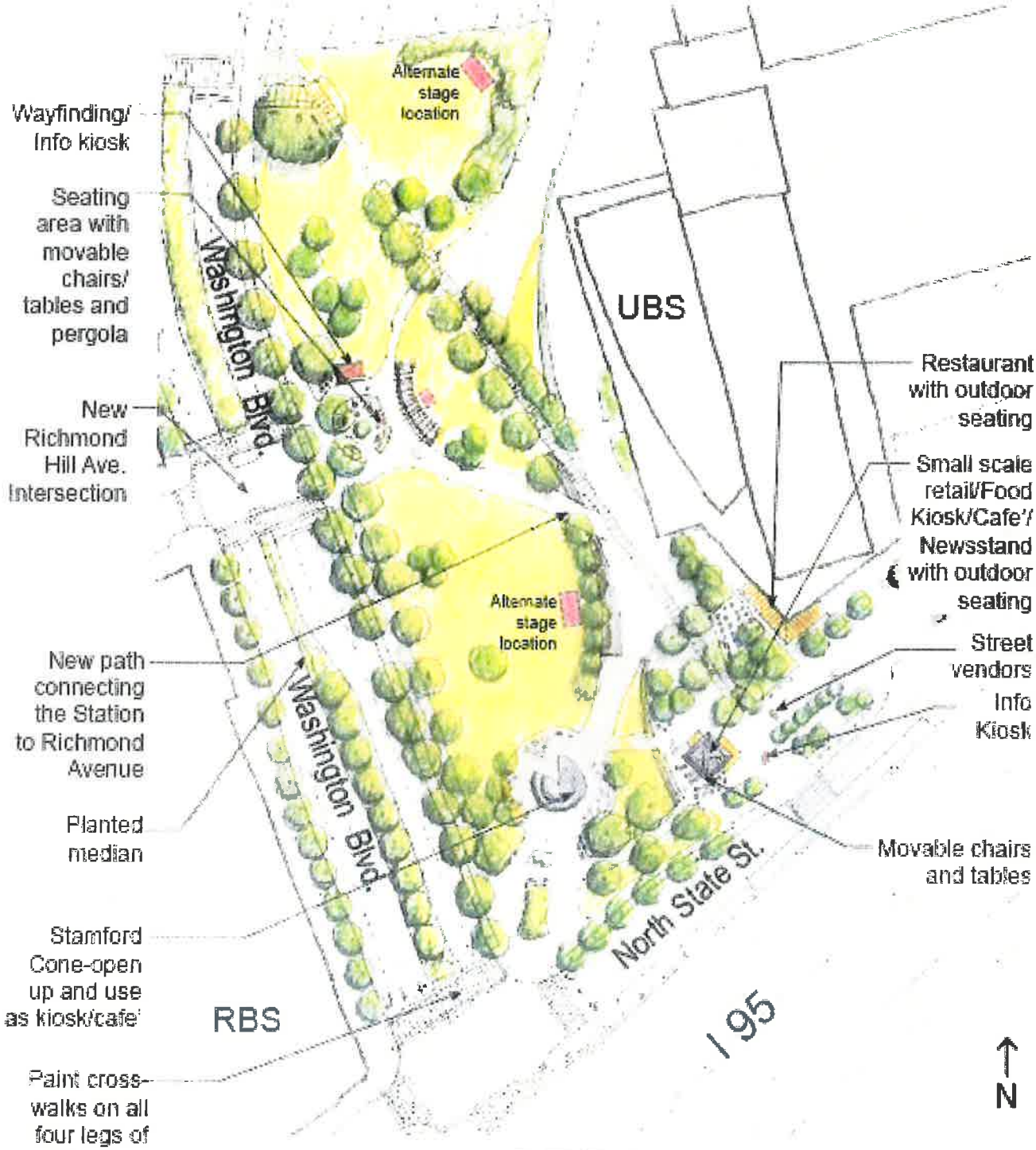
Poor	1
Fair	2
Good	3
Excellent	4

SHORT-TERM IMPROVEMENTS

- Install wayfinding signage;
- Organize a program for students or local artists to paint murals on the walls of the I-95 concrete overpasses;
- Set up newsstands and small-scale retail and food kiosks in UBS plaza and around the Transportation Center;
- Encourage street vendors;
- Provide moveble tables and chairs around the Stamford Cone to layer uses and create a downtown attraction;
- Angle the paved path across the UBS lawn to Washington Blvd. so it matches up with the new Washington Blvd. crosswalk at Richmond Hill Avenue;
- Signal timing changes may address vehicles queuing through the intersection.
- Prohibit vehicles from turning right on red to improve pedestrian safety in the area;
- Increase the visibility of pedestrian signals;
- Paint crosswalks on all four legs of the Washington Blvd./N. State St, intersection, similar to the intersection of Atlantic and N. State Streets;
- Landscape Washington Boulevard south of N. State St.

LONG-TERM IMPROVEMENTS

- Remove the channelized two-lane free right turn on N. State St.;
- Design Washington Boulevard with a planted median to deter jaywalking and to provide a median refuge for crossing pedestrians.
- Provide a pedestrian and bicycle connection between the Mill River Greenway and the Transportation Center, possibly along S. State Street;
- Encourage Connecticut Department of Transportation to explore transit-oriented development on the state-owned parking lot on S. State St.;
- Open up the Stamford Cone to serve as a walk-up kiosk/cafe or locate a cafe kiosk adjacent to it;
- Materials matter, especially for northbound drivers on Washington Blvd. The choice of paving and sidewalk materials, lane widths, on-street markings, lighting and amenities provides an opportunity to transition the mentality of drivers from the Interstate to Stamford's downtown urban setting.



SITE 1 - Location A and B

Recommended Pedestrian Improvements for the UBS Plaza and Streets to the North of the Stamford Transportation Center

SITE 1 - LOCATION C

STAMFORD GATEWAY

Mid-Block Crossing of N. State Street - Looking South from UBS Plaza

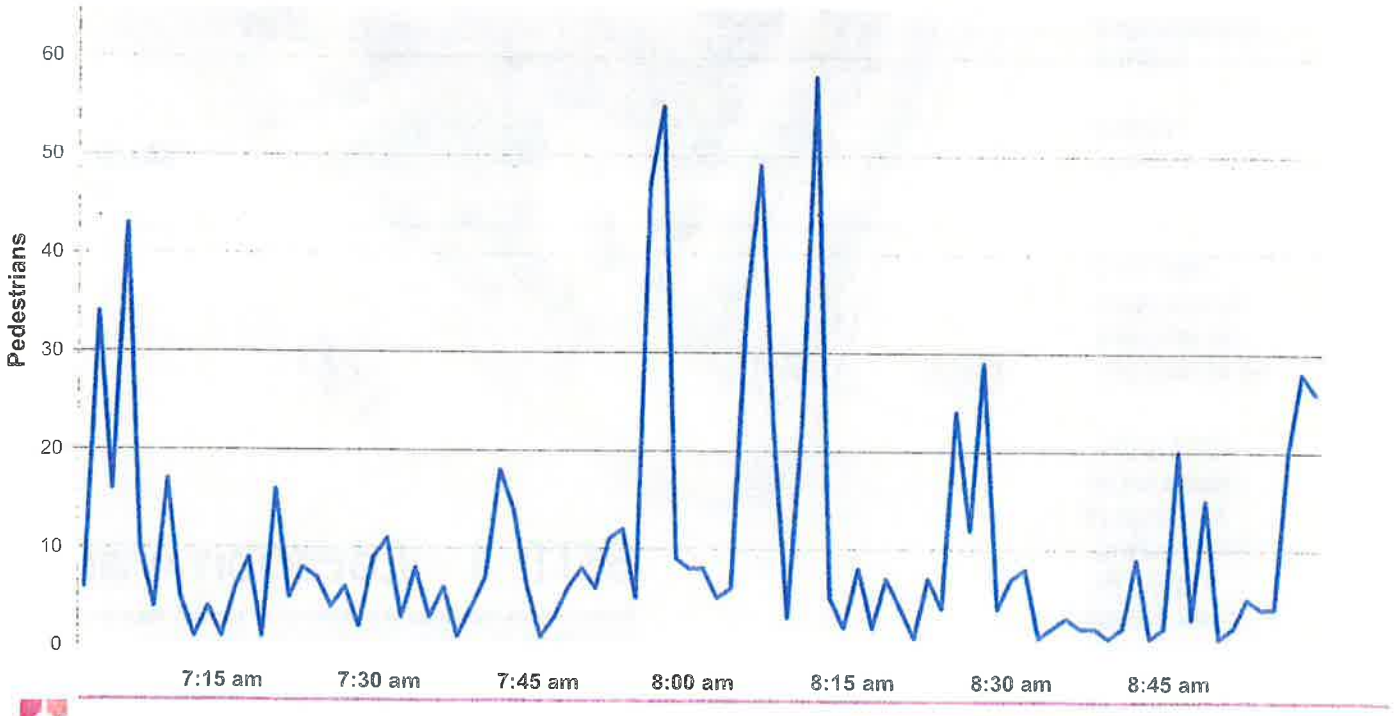
Site 1C encompasses the Stamford Gateway, the area between the Stamford Transportation Center and UBS, including North and South State Streets and the bus terminal and parking lots under I-95.

SITE EVALUATION

This area has particular challenges because the elevated Interstate 95 cuts right through it, acting as a barrier between the train station and areas to the north. The highway also dictates the character of the site and encourages vehicular speeds faster than what are appropriate for urban streets with such high pedestrian volumes.

The mid-block crossing of N. State Street is well marked and very heavily used. It is a successful recent effort to make walking safer in this area. As shown in the graph below, 1202 pedestrians used this crossing during one 90 minute observation. Each data point represents the number of pedestrians crossing together, prompted by either a pedestrian signal phase or a significant break in traffic. This compares to roughly 60 people crossing N. State Street immediately to the west at Washington Boulevard during the same time period. There were several bicycles observed using the mid-block crossing, and many pedestrians had to run across the intersection to get out of the way of approaching automobile traffic. It was also common during the morning peak period for

Mid-Block Crossings of N. State Street between UBS Site and Stamford Transportation Center



SITE 1C	Average Score	← POOR			→
Access and Linkages	2.1	1	2	3	4
Pedestrians can easily walk to and through the place	2.8				
Sidewalks connect to adjacent areas	2.8				
Crosswalks are well marked	3.0				
Crossing distances are minimized	3.0				
Children could safely cross the street alone	1.4				
Walk signal is long enough for senior citizens	2.5				
Curb cuts and cross walks accommodate disabled	2.3				
Bus stops and transit stations are easy to find	1.4				
Stops and stations are easy to get to on foot	2.8				
Bicycle routes are well marked, safe and convenient	1.2				
Bicycle parking is adequate	1.4				
There is adequate directional signage, maps and information about destinations	1.0				

Comfort and Image	1.8	1	2	3	4
From a distance the place presents a positive image	2.0				
Automobiles do not detract from the pedestrian experience	1.8				
The road is attractive and fits its surroundings	1.8				
There are choices of places to sit, both in sun and shade	2.2				
The place is in a state of good repair	3.3				
The place is neat and clean	3.4				
The place feels safe	2.4				
The place is well lighted	1.8				
Stores and cafes spill onto the sidewalk	1.0				
Waste receptacles are available nearby	1.8				
Lighting fixtures are operable and attractive	2.3				
Seating is available nearby	1.4				

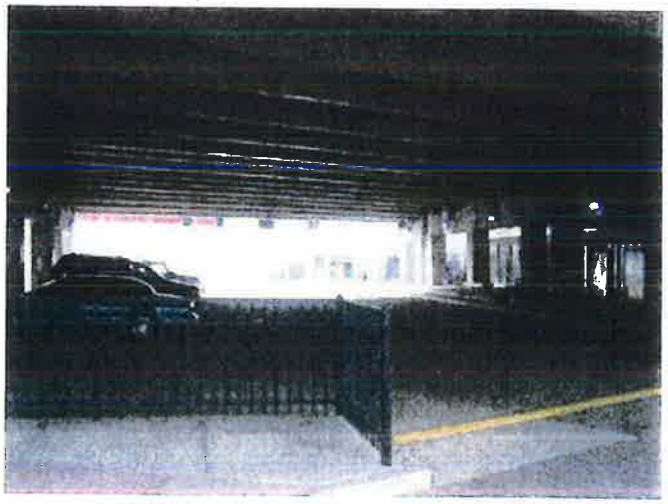
Uses and Activities	1.6	1	2	3	4
The place is busy at many times throughout the day	2.0				
People are using the spaces in and around the place for many types of activities	1.8				
There are several choices of things to do and it is easy to go from one activity to another	1.8				
Uses are easily visible and inviting for pedestrians	1.8				
Continuity of street-level uses makes for a pleasant walking environment	2.0				
Space for shopping is provided	1.0				
Space for dining is provided	1.5				
Space for playing is provided	1.3				
Space for markets is provided	1.5				
Space for community events and exhibitions is provided	1.8				
Restrooms are available nearby	1.3				
Newstands are available nearby	1.5				
Shops and restaurants are available nearby	1.8				
Convenience items are available nearby	1.3				

Sociability	1.5	1	2	3	4
Pedestrians use the place regularly by choice for reasons other than travel	1.5				
There are places to gather, there is evidence people use the space in groups	1.5				
Strangers make eye contact, people smile and display affection	1.7				
Chance encounters happen frequently, people tend to run into people they know	1.5				
There is a mix of ages, sexes, ethnic groups that generally reflects the community at large	2.7				

KEY:	Poor	1
	Fair	2
	Good	3
	Excellent	4

traffic waiting to turn left onto Washington Boulevard from westbound N. State Street to back up through the crosswalk, creating a safety problem for pedestrians.

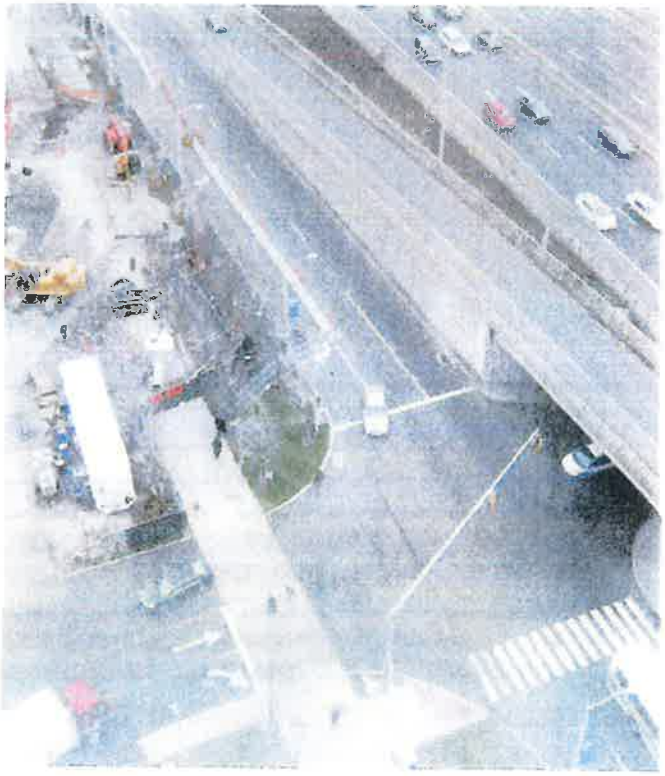
Although the textured and signalized mid-block crossing is an improvement over what existed previously, this site still rated poorly on the Place Audit (previous page) based on a variety of measurements. Overall, the Gateway does not convey a positive image or identity to daily commuters or first time visitors to Stamford. The train station entrance is dark and hidden behind 3 lanes of traffic. Security guards are the first thing one sees when entering the hallway to the station, and their prominence suggests a safety problem. As with the other sites evaluated during the workshop, there are practically no uses or activities other than transportation around the Transportation Center or on the ground floor of surrounding buildings to encourage people to linger and socialize with friends, family and co-workers. Morton's Steakhouse is the sole exception, but it does not generate any daytime or outdoor activity.



Bus Terminal Under I-95

The bus terminal under I-95 is also dark, unwelcoming, and dominated by vehicular traffic, and it lacks the amenities that would make it a comfortable and inviting place to wait. A lack of signage and bus information also discourages ridership.

A considerable number of pedestrians exiting the Transportation Center walk northeast along North State Street to Atlantic Street and must pass through the intersection of N. State Street and the road that leads into the UBS parking garage. The crossing distances and corner radii of this intersection are very large even though there is only significant vehicular traffic traveling straight along N. State St. and pedestrian volumes are heavy relative to the number of vehicles moving through the intersection. Additionally, construction activities on the UBS site have taken away one lane of traffic on N. State Street (down to two lanes from three - see photo at left), and traffic still clears the intersection on each cycle. Numerous bicycles were observed traveling along N. State Street, and several cars stopped to drop off passengers.



Construction on N. State Street at UBS Garage Access Road

PEDESTRIAN TRACKING BETWEEN 7:15 AM AND 8:15 AM
INTERSECTION OF NORTH STATE STREET & UBS GARAGE ACCESS ROAD

Time: 7:15AM – 7:30AM

Time: 7:30AM – 7:45AM

Time: 7:45AM – 8:00AM

Time: 8:00AM – 8:15AM

PPS observed that most pedestrians crossing N. State Street near the UBS garage entrance do not use the existing crosswalk but rather cut across the intersection diagonally because of a lack of traffic on the side street that intersects N. State. Each line in the graphics above represents the path of one pedestrian from 7:15 am to 8:15 am.

SHORT-TERM IMPROVEMENTS

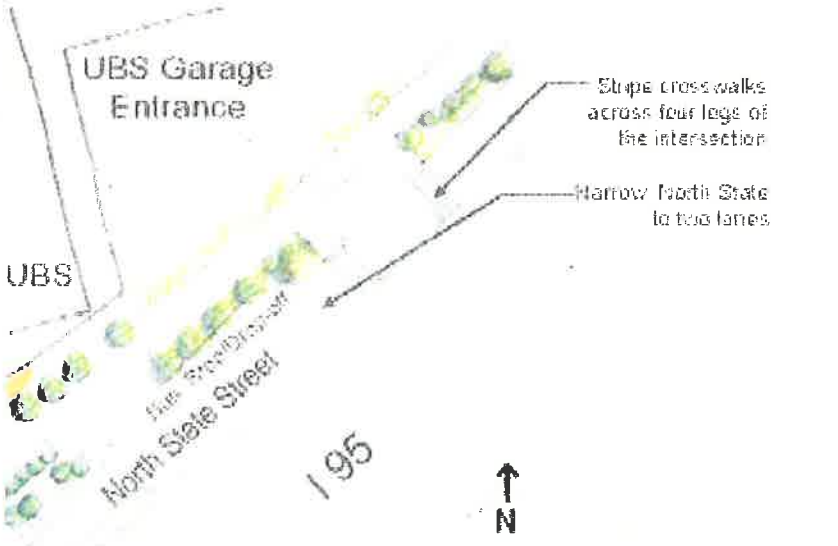
- Install informational maps that identify important downtown destinations;
- Locate ticket vending machines just inside the train station entrance;
- Add color to the space with banners, awnings, and seasonal landscaping to improve aesthetics and signal the location's importance as a pedestrian space.
- Activate the public spaces around the train station and UBS with an outdoor coffee cart, food kiosk and newsstand;
- Restripe one lane on North State Street to create pick-up and drop-off area for transit riders that could also serve as a local bus stop;
- Reduce speed of traffic on North State by narrowing lane widths;
- Provide more bicycle racks in visible locations;
- Create an outdoor dining area for Morton's Steakhouse in the UBS plaza and encourage use of the space for both lunch and dinner;
- Move stop lines back from the crosswalks along State and Washington Streets;
- Install comfortable seating and bright, pedestrian-scaled lighting in the bus terminal under I-95;
- Encourage public art in the bus terminal to improve its aesthetics;
- Clearly label which bus lines stop at each bay;
- Stripe crosswalks across all four legs of the intersection of N. State Street and the access road into the UBS parking garage.

LONG-TERM IMPROVEMENTS

- Permanently narrow N. State St. to two lanes (this may provide space for a Class I separated bicycle lane);
- Study ways to reduce traffic on N. State St., such as limiting the street to buses, bicycles and high-occupancy vehicles or relocating highway entrances/exits;
- Remove the northbound I-95 exit ramp, and relocate it further to the east;
- Implement audible and pedestrian countdown signals at all crosswalks around the train station;
- Display real-time travel information at the bus bays;
- Display real-time transit information on the "Stamford Gateway" so travelers know when their trains or buses will actually arrive and whether they have time to grab a newspaper or pick up dinner; a news "zipper" visible from the UBS plaza would also be appropriate in this location to draw people towards the train station and enhance the pedestrian experience;

South Orange, NJ Train Station Retail

- Provide a booth at the train station entrance for ticket sales and information about transit services, downtown Stamford and Transportation Center services either by constructing a new information booth or relocating the security staff;
- Support convenience retail in and around the station with subsidized rents and outdoor advertising (see image at left);
- Remove automobile parking under I-95 to make room for public art, retail space and informational kiosks near existing bus bays;
- To make bicycling comfortable and convenient, create "bicycle stations" that include, but are not limited to, secure bicycle parking, lockers, showers, and simple repair services.
- Use lighted bollards and in-pavement flashers to improve nighttime visbility of pedestrians using the mid-block crosswalk;
- Use curb extensions at the intersection of N. State Street and the UBS garage access street to shorten crossing distances, slow traffic and improve pedestrian sight distance of westbound traffic;
- Narrow the garage access street and the street that crosses under I-95 to the train station to be more consistent with the volumes of traffic using them and to shorten the pedestrian crossing distances;
- Undertake a more comprehensive study of the Stamford Transportation Center and how its internal circulation can be simplified and upgraded to handle the anticipated increase in transit ridership.



SITE 1 - Location C

Recommended Pedestrian Improvements for N. State St. and the UBS Garage Access Road

SITE 1 - LOCATION D

ATLANTIC STREET - FEDERAL TO S. STATE

Atlantic Street Running beneath I-95 and the Railroad Trestle - Looking East from UBS Building

Site 1D encompasses the intersections of Atlantic Street with Federal, N. State and S. State Streets. The area around Atlantic Street and the train station, especially south of I-95, is experiencing a major redevelopment with new office space and housing units. Therefore, consistent with Stamford's Master Plan, Atlantic Street can become both the major pedestrian spine of downtown Stamford and street that unites the areas north and south of I-95. It is imperative that this street be designed to prioritize pedestrians and ensure their safety and comfort. The planned state project to widen and improve Atlantic Street under the railroad overpass is an important element of this strategy, as are the recommendation ideas presented below.

SITE EVALUATION

Atlantic Street is an essential pedestrian route to the major destinations of downtown Stamford, including the Stamford Town Center mall, Main Street and Bedford Street. There is a diverse set of people moving through this space that the workshop participants generally felt represented the community at large. There is no opportunity, however, for them to interact with one another.

The confluence of urban streets, highway on- and off-ramps, and the pedestrian traffic associated with such a high volume transit hub creates competing interests and requires difficult tradeoffs. Aside from the basic infrastructure necessary to accommodate pedestrian travel, roadway design in this area of Stamford does not reflect a conscious decision to create a pleasurable pedestrian environment. This is reflected in the poor assessment of the area (see ratings on following page) and the fact that this site rated worse than all the others in terms of its comfort and image.

For instance, vehicles traveling on N. State Street speed through the area to make it through the green lights to the west (and down the hill). And at the intersection of Atlantic Street and S. State, there is almost no sidewalk along the eastbound travel lane, so pedestrians are walking in the street.

SITE 1D	Average Score	← POOR			→
Access and Linkages	2.1	1	2	3	4
Pedestrians can easily walk to and through the place	2.7				
Sidewalks connect to adjacent areas	3.0				
Crosswalks are well marked	2.7				
Crossing distances are minimized	2.3				
Children could safely cross the street alone	2.0				
Walk signal is long enough for senior citizens	2.0				
Curb cuts and cross walks accommodate disabled	3.3				
Bus stops and transit stations are easy to find	1.5				
Stops and stations are easy to get to on foot	2.0				
Bicycle routes are well marked, safe and convenient	1.3				
Bicycle parking is adequate	1.0				
There is adequate directional signage, maps and information about destinations	1.7				

Comfort and Image	1.5	1	2	3	4
From a distance the place presents a positive image	2.7				
Automobiles do not detract from the pedestrian experience	1.7				
The road is attractive and fits its surroundings	1.7				
There are choices of places to sit, both in sun and shade	2.0				
The place is in a state of good repair	2.7				
The place is neat and clean	2.7				
The place feels safe	2.3				
The place is well lighted	2.0				
Stores and cafes spill onto the sidewalk	2.0				
Waste receptacles are available nearby	2.0				
Lighting fixtures are operable and attractive	2.0				
Seating is available nearby	1.7				

Uses and Activities	1.4	1	2	3	4
The place is busy at many times throughout the day	2.7				
People are using the spaces in and around the place for many types of activities	1.3				
There are several choices of things to do and it is easy to go from one activity to another	1.3				
Uses are easily visible and inviting for pedestrians	1.7				
Continuity of street-level uses makes for a pleasant walking environment	1.7				
Space for shopping is provided	1.0				
Space for dining is provided	1.0				
Space for playing is provided	1.0				
Space for markets is provided	1.0				
Space for community events and exhibitions is provided	1.0				
Restrooms are available nearby	1.5				
Newsstands are available nearby	1.5				
Shops and restaurants are available nearby	1.5				
Convenience items are available nearby	1.5				

Sociability	1.6	1	2	3	4
Pedestrians use the place regularly by choice for reasons other than travel	1.7				
There are places to gather, there is evidence people use the space in groups	1.7				
Strangers make eye contact, people smile and display affection	1.3				
Chance encounters happen frequently, people tend to run into people they know	2.0				
There is a mix of ages, sexes, ethnic groups that generally reflects the community at large	3.0				

KEY:		
	Poor	1
	Fair	2
	Good	3
	Excellent	4

SHORT-TERM IMPROVEMENTS:

- Add sidewalk seating and more landscaping throughout the site;
- Install signage to direct pedestrians towards downtown and the train station;
- Install maps and lighting and paint the walls and ceiling underneath I-95 and the railroad trestle to improve visibility and aesthetics along Atlantic Street. In New York City, the DOT and a local BID put together a "This Way" lighting installation project that transformed the formerly dark and forbidding Brooklyn Bridge stairwell and underpass into a welcoming pedestrian space (photos at right).

"The Way" Light Art Installation, Brooklyn, NY
Photos: Seth Ely

LONG-TERM IMPROVEMENTS:

- Complete the design and construction of the Atlantic Street railroad overpass project to widen the sidewalks on Atlantic Street and enhance visibility into the underpass;
- Widen the sidewalk to accommodate bicycles or add bike lanes to Atlantic, N. State and S. State Streets;
- Add a water feature or sculpture to the large sidewalk space on the corner of Atlantic and N. State to create a place (as in the photo below);

Street Corner, Aspen, CO

- Redesign the intersection to prohibit right hand turns;
- Bring more urban building design and activity, such as ground floor retail and outdoor dining into this area to connect downtown with the train station;
- Create more activity on the street by increasing building density (for example, redevelop the UBS parking lot at the corner of Atlantic and N. State with a mixed-use building with ground floor retail);
- Design a trolley system that ties city destinations together.

SITE 2

WASHINGTON & TRESSER BOULEVARDS

Site 2 is the intersection of Washington Boulevard and Tresser Boulevard. Both roadways are state highways that serve regional traffic but must also be designed to be sensitive to their context. For the last 30 years, these roads have been designed to maximize vehicular throughput and minimize traffic delay. With residential growth in the downtown, they must now be redesigned to enhance pedestrian safety, provide additional urban amenities and create an inviting environment for pedestrian travel.

Northeast Corner of Intersection of Washington and Tresser Boulevards - Looking East from Stamford Government Center

SITE EVALUATION

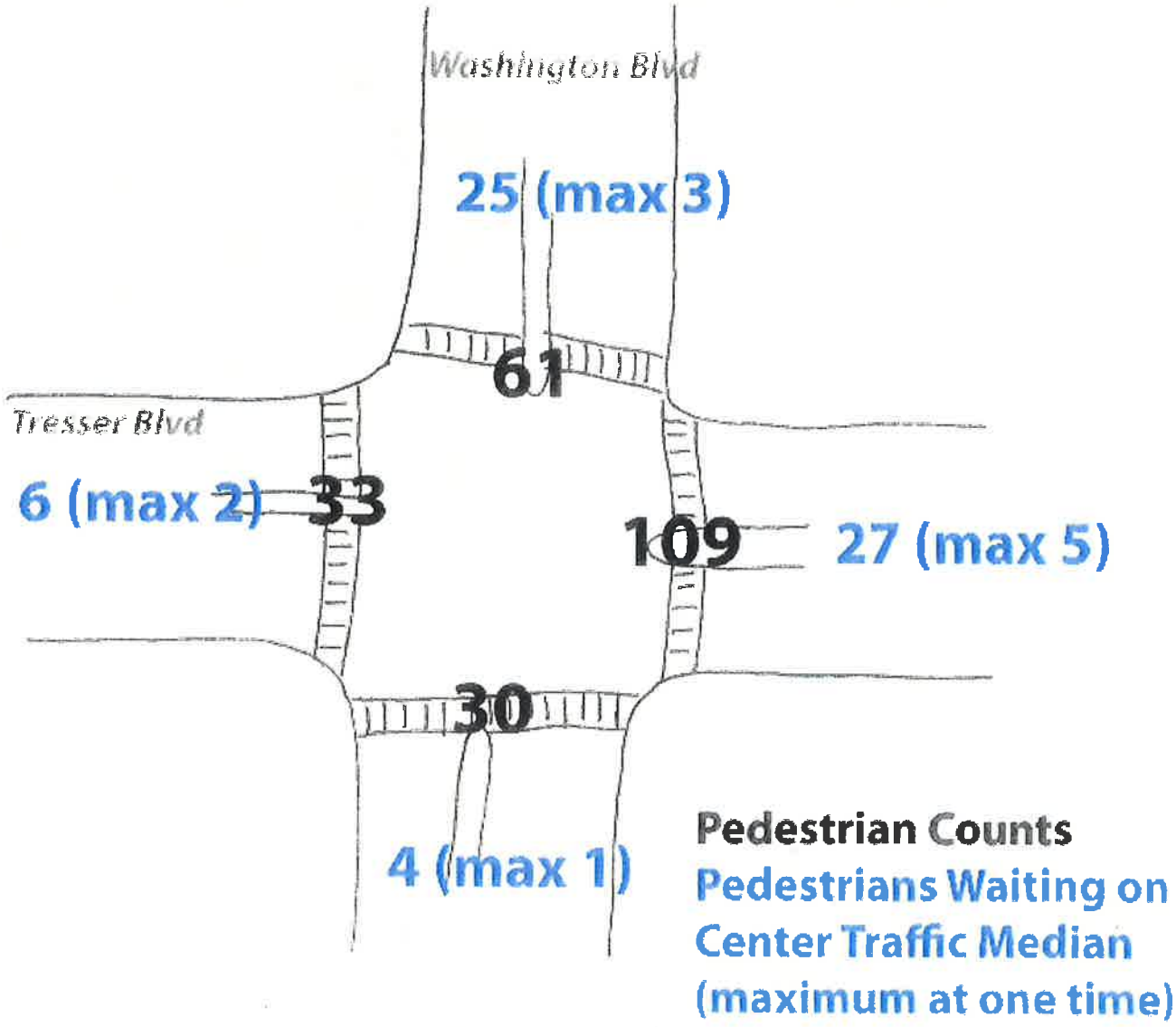
As mentioned previously, this intersection is the border between what is generally recognized as the true downtown of Stamford and the area around the train station and I-95. North of Tresser, Washington Blvd. has on-street parking, narrow lanes, a planted median and aesthetic lamp posts. South of Tresser Blvd., all of the above treatments disappear, communicating that the area south of Tresser Blvd. is no longer "downtown." The superblock pattern, large building setbacks and lack of street level uses south of Tresser Blvd. further communicate that the area between Tresser Blvd. and the train station is not designed for urban pedestrian activity.

Planted Median on Washington Boulevard

Additionally, this stretch of Tresser Blvd. is three lanes in each direction, but it is narrowed to both the east and west of this intersection. There did not seem to be enough traffic on Tresser Blvd. during PPS's observations to justify six through lanes in what is desired to be an urban, walkable area.

The bus stop on northbound Washington Blvd., just south of Tresser, does not have seating or a shelter despite frequent bus service at this location. Riders seeking shelter from the weather find refuge between a hedge and a nearby building.

PPS observed this site from 3 pm to 4:15 pm on a weekday. The most heavily trafficked legs of the intersection are the eastern approach of Tresser and the southern leg of Washington. The graphic on the following page depicts the total number of pedestrian crossings during this hour (in black). The blue number represents the number of pedestrians who had to wait on the median for traffic to clear before crossing the second



direction of traffic. These are significant figures and make up as much as 40% of total foot traffic. The number in parentheses is the maximum number of pedestrians waiting in the median at any one time.

During this time period, six bicycles, a stroller and a wheelchair were also observed traveling through this intersection. On both approaches of Washington Boulevard, pedestrians frequently crossed the street through stopped traffic, a distance back from the crosswalk.

SHORT-TERM IMPROVEMENTS:

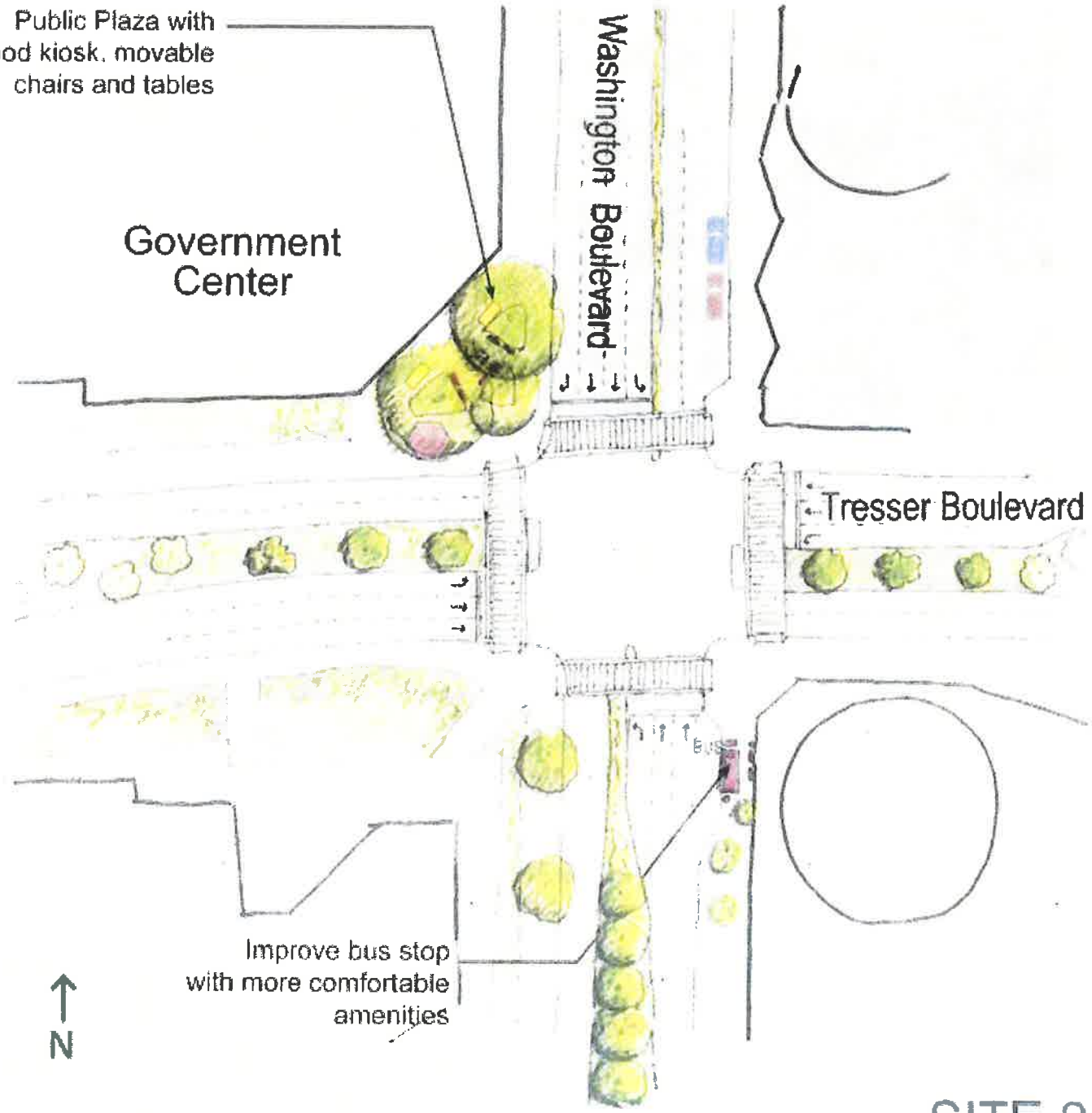
- Improve the bus stop with more comfortable amenities;
- Encourage the businesses along Washington Blvd. to have an outdoor presence with sidewalk seating, sidewalk sales or sandwich boards;

- Treat the space outside of the Government Center as a public plaza with a food kiosk or street vendors and moveable tables and chairs (see photo at right). Management and programming of this space is essential to provide a reason to be there and prevent it from becoming a place for "undesirables."

City Hall, Orlando, FL

LONG-TERM IMPROVEMENTS:

- Narrow this stretch of Tresser to two lanes in each direction, with dedicated left-turn lanes;
- Provide median pedestrian refuges at the intersection to safely and comfortably accommodate a number of people crossing at one time;
- Include pedestrian cut-throughs in future redevelopment requiring large building footprints to provide better connectivity and pedestrian circulation;
- Develop buildings along Washington and Tresser Boulevards to create a continuity of interesting ground floor uses; large single purpose functions, like office buildings, can be located above and behind great ground floors;
- Maintain sightlines from the south to the northeast corner of Washington and Tresser Boulevards, as it is an important corner for visually drawing pedestrians into downtown;
- The planned redevelopment projects around this intersection are a valuable opportunity to help build a more urban environment that offers an enjoyable pedestrian experience and spans the perceived gap between the transit station and the downtown. These include redevelopment of the UBS surface parking lot (immediately north of the existing UBS building) and the old Stamford Advocate building (southwest corner of Washington and Tresser).

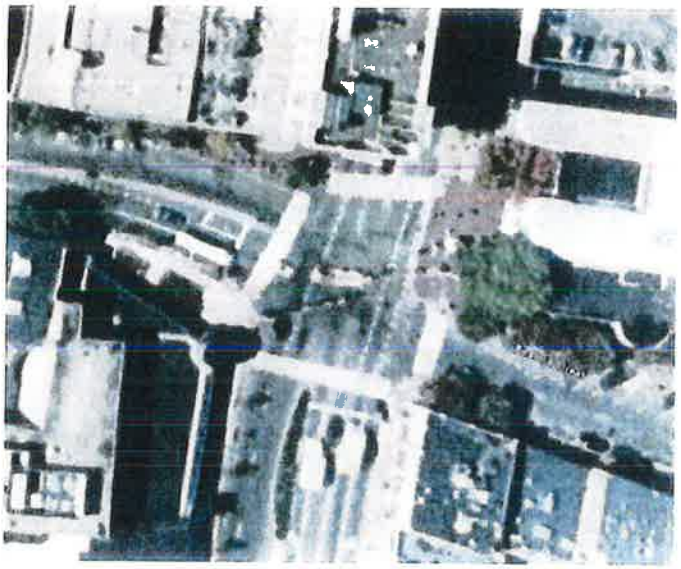


SITE 2

Recommended Pedestrian Improvements for Intersection of Washington and Tresser Boulevards

SITE 3

BROAD STREET & ATLANTIC/BEDFORD STREET



Aerial View of Site 3

Site 3 is the intersection of Broad Street with Atlantic/ Bedford Street. Atlantic Street is to the south of Broad, and Bedford is to the north. This is the 100% intersection for downtown Stamford; therefore, its design should very clearly communicate the vision and priorities of the city.

SITE EVALUATION

This area has great potential to become a destination not only for Stamford but for the entire region and state. There are quite a number of new business and restaurants on Bedford Street; Atlantic Street is a great urban street that would benefit from more street level retail; and the library on the northwest corner of the intersection could become an important community anchor and gathering place.

PPS observed this intersection between 12:30 pm and 1:30 pm on a weekday. This intersection is very heavily used by pedestrians, cars, trucks and buses. Broad Street is a major east-west vehicular route through town, and traffic on this street generally approaches the intersection much too fast for pedestrian safety.

Many pedestrians felt they had to run to get out of the way of approaching traffic (see photo below). This is a sign that pedestrians are uncomfortable and are intimidated by the dominance of vehicular traffic.

Additionally, the distance pedestrians have to cross, up to six lanes of traffic on Broad Street, is too long, especially since the intersection lacks sufficient median refuges for pedestrians who could not make it across the street during one cycle and have to wait between opposing (and sometimes speeding) flows of traffic.

The following are the numbers of pedestrians who had to wait in the middle of the street before completing their crossing from 12:30 pm to 1 pm:

- Atlantic Street – 8 total pedestrians (maximum of 2 at any one time)
- Eastern Leg of Broad Street – 25 total pedestrians (maximum of 4 at any one time)
- Western Leg of Broad Street – 31 total pedestrians (maximum of 4 at any one time)

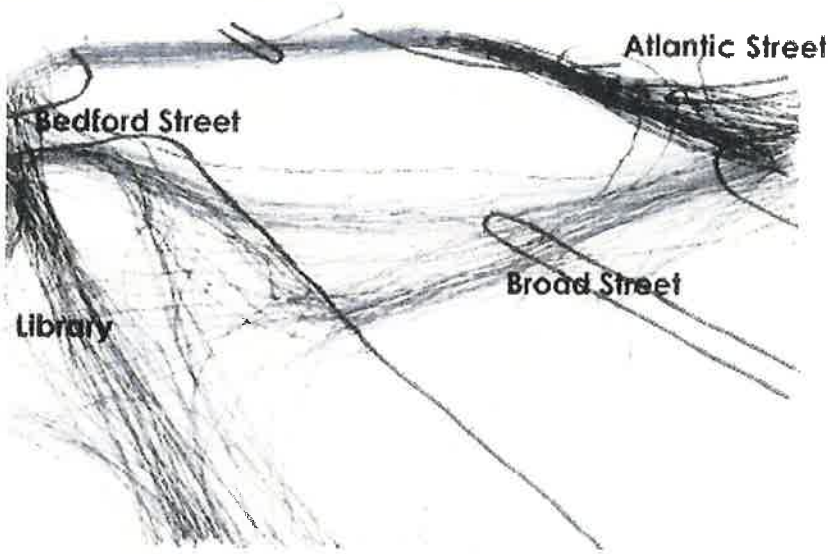
This was not an issue for Bedford Street because of its narrow width.

Pedestrian Running across Atlantic Street

Like the intersection of N. State Street and the UBS garage access road, and as shown in the pedestrian tracking below, people tend to cross where the distances are shortest rather than at sanctioned crosswalks. This is an issue on the western leg of Broad Street because the crosswalk does not align with the corner of the intersection. Pedestrians are cutting across the intersection from the southwest to the northwest corners because the crosswalk ends/starts west of the intersection rather than at the corner.

The distance between both approaches of Broad Street creates a dangerous situation in which pedestrians begin to cross the western leg of Broad without being able to see westbound traffic entering the intersection. The problem is that the vehicular crossing distance along Broad St. is very long, and pedestrians cannot see approaching vehicles until the vehicles are nearing the path of the pedestrians.

Finally, as with the other sites included in this report, bicycles were observed here traveling both on the sidewalk and in the street.



Pedestrian Tracking between 12:30 pm and 1:00 pm
Intersection of Broad, Bedford and Atlantic Streets

SHORT-TERM IMPROVEMENTS:

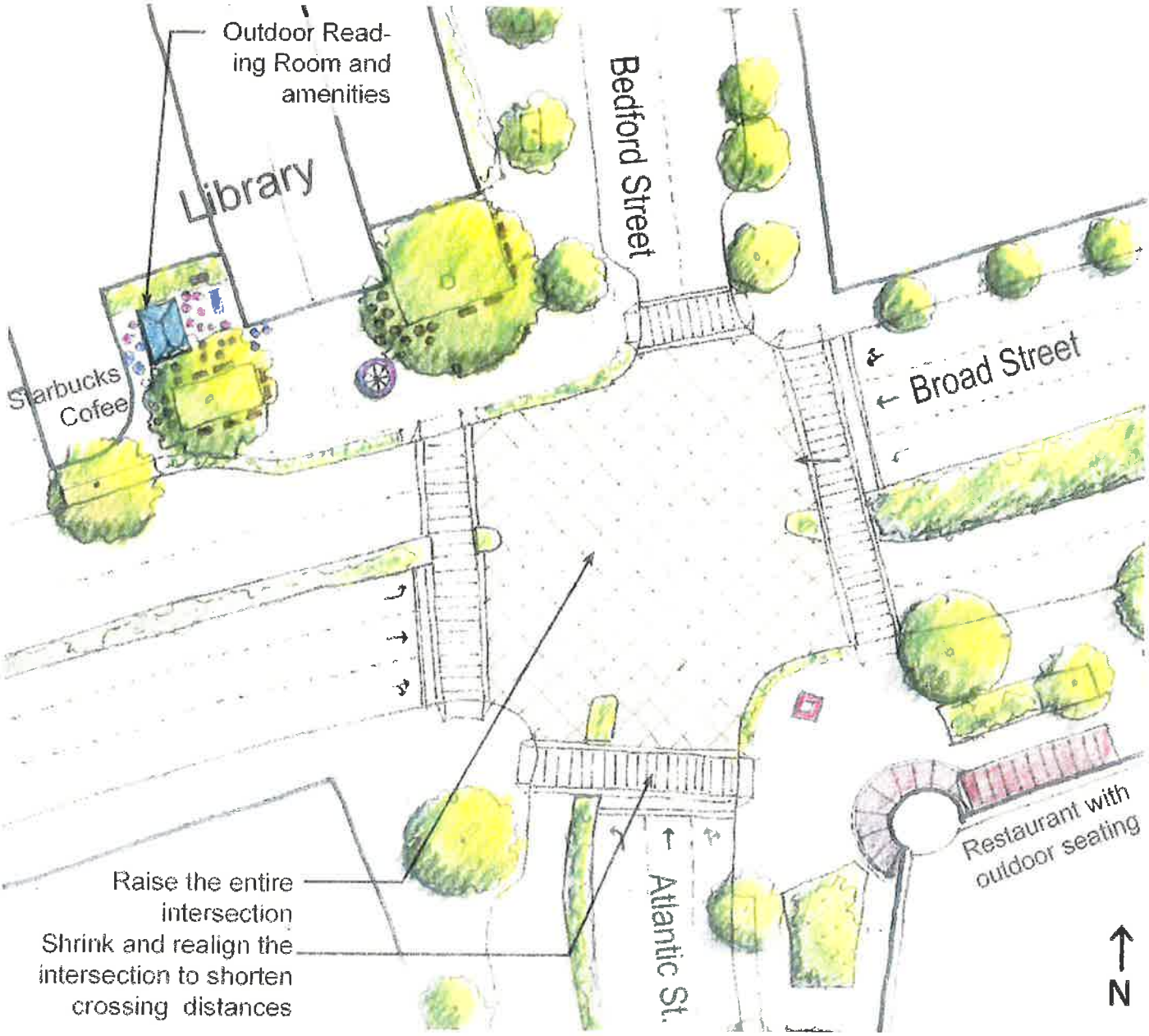
- Give pedestrians a head start to reduce conflicts with turning vehicles by providing a Leading Pedestrian Interval (LPI) and retiming the left-turn arrow to run at the end of the signal cycle;
- Move or extend the existing curb extension on Bedford Street (see photo on following page) to the south so it is right at the intersection, thereby shortening the crosswalk length and slowing turning vehicles;
- Add amenities to the outdoor space of the library to encourage people to gather there. As with the public space outside the Government Center, management is essential to provide people with reasons to gather there and to prevent it from becoming a place for "undesirables."
- Create an outdoor reading room with periodicals and popular books, as is done at Bryant Park in New York City;
- Plan seasonal programming to activate this space year round.

Ferguson Library Entrance

Curb Extension on Bedford Street

LONG-TERM IMPROVEMENTS:

- Shrink and realign the intersection to shorten crossing distances;
- Widen and extend the medians on both legs of Broad St. and on Atlantic St. out through the crosswalk to provide better pedestrian protection for those waiting to cross in the middle of the street;
- Raise the entire intersection, an idea that came out of Urban Engineer's focus groups, to slow traffic entering the intersection and signal that this is the heart of downtown Stamford;
- Design Bedford Street as a "Festival Street" so it is easily closed for downtown events by removing the grade change between the sidewalk and street, creating the continuous feel of a plaza, and use movable barriers to facilitate quick street closings.



SITE3

Recommended Pedestrian Improvements for the Intersection of Broad, Atlantic and Bedford Streets

NEXT STEPS

This report is based on first-hand observations and solicited stakeholder input for pedestrian improvements in downtown Stamford. The recommendations are conceptual ideas to stimulate dialogue and creativity amongst planners and citizens in the private, non-profit, and public realms.

To begin the implementation process, the workshop participants brainstormed potential partnership opportunities for activating the public spaces around the train station or providing resources for public space improvements. These partnership ideas are as follows:

- Antares Real Estate Company
- City of Stamford
- Connnecticut Department of Transportation (ConnDOT)
- Private property owners
- Royal Bank of Scotland (RBS)
- South Western Regional Planning Agency (SWRPA)
- St. John's Development Corporation
- Stamford Chamber of Commerce
- Stamford Downtown Special Services District
- Stamford Partnership
- State lobbyists
- UBS
- University of Connecticut (UConn)

Since Stamford does not have an advocacy group whose mission is to create a walkable community, PPS recommends convening a Walkable Stamford Working Group, whose members will each have responsibilities for carrying out the short-term and long-term recommendations presented in this report. Initial members should include the City of Stamford, Connecticut Department of Transportation, the Downtown Special Services (business improvement) District, RBS and UBS. Membership could then be extended to the rest of the organizations on the list above, as well as other stakeholders interested in creating a great downtown.

The Working Group should think broadly about who to engage and bring in organizations outside of traditional transportation and planning circles. Given the many benefits that arise from walking, stakeholders could include those interested in improving the environment, youth and senior mobility, social equity, physical and mental health, civic engagement, and the economic competitiveness of downtown Stamford.

In conclusion, below are eleven considerations for professionals and citizens as they move forward with pedestrian improvements and Placemaking in downtown Stamford:

1. The community is the expert
   - continue to engage and leverage local knowledge
2. You are creating a place not just a design
   - avoid the ego, places meet the needs of people first
3. You can't do it alone
   - explore partnerships, engage local talents, and cultivate responsibility
4. Professionals often say it can't be done
   - what they really mean is, "we have never done it that way before"
5. You can see a lot just by observing
   - evaluate your progress and regularly measure people's satisfaction
6. Communicate your vision
   - become an educator, shepherd the vision, and grow your flock
7. Form supports function
   - anticipate and satisfy human needs
8. Triangulate
   - create vibrancy by identifying large and small scale synergies
9. Start with the petunias
   - experiment, take small steps, celebrate and learn from your successes
10. Money is not the issue
    - don't be discouraged, great places require creativity
11. You are never finished
    - stewardship, pride, and cooperation are ongoing

COMMUNITY
connectivity program

Appendix E

AECOM
Built to deliver a better world

Town of Stamford's Comments

Section 1, Page 6:
The City of Stamford has submitted an application to CTDOT Traffic Engineering to:
1) Convert Washington/Station Pl., Washington/South State St., and Washington/Richmond Hill to concurrent from exclusive.
2) Install Audible Pedestrian Signals at all intersections from Station Pl. to Main St. along Washington Blvd., and install all missing tactile pads.
3) Add Leading Pedestrian Interval at all intersections from Station Pl. to Main St. along Washington Blvd.
4) Add ped recall at all intersections from Station Pl. to Main St. along Washington Blvd.
Also, the City intends to install missing tactile warning strips throughout this corridor.

Section 2, Page 8:
There was a ped crash at Tresser/Washington on 10/16/13 resulting in a severe ped injury (case #131151)
See crash data attached from UCONN Crash Data Repository (CDR).

Section 2.1, Page 8:
6 pedestrian crashes resulting in severe ped injuries at Main/Washington from 2012-2016.
7 pedestrian crashes resulting in severe ped injuries at Broad/Washington from 2012-2016.
2 pedestrian crashes resulting in severe ped injuries at UCONN Garage/Washington from 2012-2016.
See attached crash data from UCONN CDR.

Section 2.1, Page 8, Table 2:
Could contributing factors or causation be included in this table? Or discussion of what this data means?
Ex. The rate of rear-end crashes is high, which shows that _____ is likely a major factor in causation.
http://www.ctcrash.uconn.edu/

Section 2.1, Page 9:
The City of Stamford shows concerns: Washington Blvd is not ideal for an on-street bike route, however it has the multi-use trails on UBS property. Alternative route for on-street bike lanes is Atlantic Street, and the future Mill River Greenway will provide an off-road trail connecting to STC. Bike lanes on Tresser have been called for during the Stamford Bike & Pedestrian Plan and also the recent update of the CT Bike & Ped Plan.

Section 2.1, Page 9, Intersection #1:
Yes, all approaches have some type of raised island, but I think it's noteworthy to mention that only one of the raised islands is wide enough to be a pedestrian refuge island. The other raised islands give the illusion of safety, but are too narrow to be safe refuges, thus they are actually a safety hazard. These narrow raised medians should be removed and improvements should be made to allow pedestrians to cross safely in one pedestrian phase.

Section 2.1, Page 10, Intersection #5:
Study, closing the Washington Blvd entrance to the private shuttle area was discussed to simplify the turning movements and improve pedestrian crossing north-south across this intersection.

Section 2.1, Page 10, Intersection #6:
It is notable that there is a dedicated bike lane SB on Washington Blvd south of Station Place, and sharrows on NB Washington Blvd from Atlantic to Station Place in the South End.

Section 3.1, Page 17, Tresser Boulevard & Washington Boulevard:
All pedestrian timing changes have been made from Station place to Main Street along the Washington Blvd Corridor as of 1/5/16. The City updated them using 3.5 feet per second rule.

Section 3.1, Page 18, Tresser Boulevard & Washington Boulevard:
There is a need for Leading Pedestrian Interval (LPI) and automatic ped signal (ped recall) in this area and beyond to improve pedestrian safety. The City is also looking into the possibility of lagging left to prevent left turning car crashes involving pedestrians.

Section 3.2, Page 23:
The City has applied to convert Station Pl, South State Street and Richmond Hill to concurrent. And, all intersections between Station Place and Main will have LPI and automatic ped signal recall.

Section 4.1, Page 26,
Emily Provonsha contacted John Henault and is waiting on a response. John said that if it isn't on the VIP list, then the City can apply for STP Urban Rural funds through WestCOG for resurfacing.